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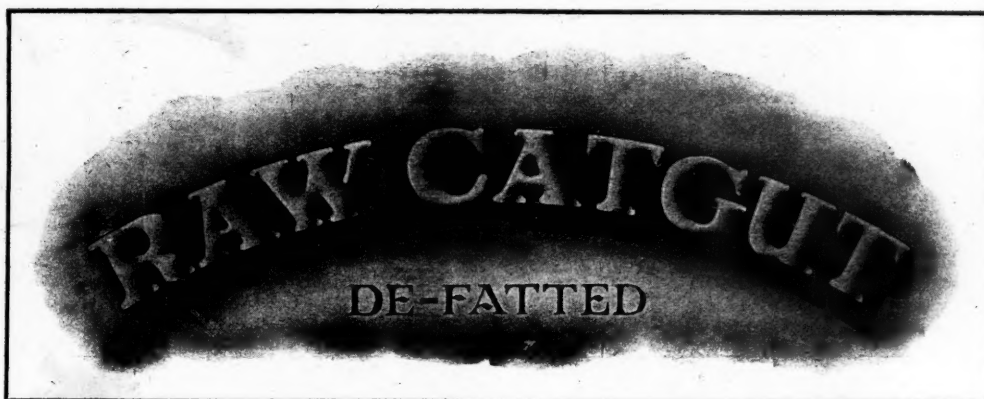
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No. 25.

WAR AMPUTATIONS OF THE LOWER LIMB.¹

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The proportion of amputation cases in the practice of the busiest civil surgeon is very small and during the war it was the custom to centralize these cases, when the patients reached the base, in special hospitals, so that even in war-time it fell to the lot of very few medical officers to follow these patients until the time when they were finally fitted with suitable replacements. As a result, large numbers of men in Australia now have had limbs amputated and are in various stages of repatriation, have to present themselves for treatment and boarding to medical officers who have not given such cases special consideration. In the light of these facts, it is thought that a few practical notes on the subject may be helpful to those who have to deal with war amputations and to the civil practitioner who finds himself called upon to amputate limbs and who has not a clear knowledge of the requirements to be met when the time comes for fitting the patient with an artificial limb. Before discussing any methods of amputation in detail, I wish to emphasize strongly a principle which should underlie all methods; it is this: that in all amputations above the lower third of the leg efforts should be made to conserve every available inch of bone, so as to provide as long a lever as possible to carry the weight of an artificial limb.

Primary Amputation for Trauma.

This is usually done in grossly soiled wounds, in a patient suffering from severe shock. The clear indications are: (1) that the operation should be as simple and expeditious as possible, (2) that the freest possible drainage should be provided and (3) that every effort should be made to conserve as much uninjured tissue as possible, so as to provide material for fashioning an adequate stump at a later date, when sepsis has been overcome.

All these indications are met by the modified guillotine amputation, as practised almost exclusively at casualty clearing stations in the later years of the war. In this operation an incision is made across the site of injury in such a way that no part of the incision passes through devitalized skin. Usually trauma is more marked on one aspect of the limb; the incision is made obliquely, so as to save as much skin and uninjured tissue as possible on the less injured side. All devitalized muscle is removed and as much bone is conserved as is consistent with the removal of detached fragments. It is not, I think, advisable to suture the periosteum over the end of the bone in a primary amputation. Wet antiseptic dressings are applied and no sutures are inserted. As soon as it can be done without undue pain, skin extension should be applied. I have found Leslie's

hospital strapping to be the best material to use and the extension is best secured by means of a short Thomas's splint applied in the usual way.

Early skin extension, after the method described, serves a double purpose. It keeps the muscles in the stump at rest and so promotes healing; it palliates the sudden reflex contractions which are so painful in some recent amputations and it greatly lessens skin retraction; it leaves more soft tissues available to cover the end of the bone at the secondary operation. Thus it often happens that the secondary operation is merely an excision of adherent scar and no bone has to be removed, as sufficient soft tissues are available to cover the bone ends after excision of the scar. There have been a small proportion of cases, in fact, in which a primary guillotine amputation, followed by the early and consistent application of skin extension, has resulted in an efficient stump without the necessity for further operation.

Flap amputations, as a primary measure for trauma, are generally speaking contra-indicated, for three main reasons: (i.) Fresh paths of infection are opened up in fashioning the flaps. (ii.) Even if the flaps are left unsutured, drainage is not as free as in the guillotine operation and so necrosis of bone is more likely to occur. (iii.) The ultimate extent of bone necrosis in an amputation stump cannot be determined in a recently infected wound; the temptation in a flap operation is to remove sufficient bone to make the flaps meet, allowing for retraction. If necrosis occurs now, further bone is lost. By the guillotine method the maximum amount of bone is retained until the process of sequestration is complete.

The next problem to be faced is to determine the period which should elapse before re-amputation, or before a plastic operation is performed to secure an efficient stump. I have seen this done at periods varying from six weeks to nine months. From a study of after results in stumps four or five years old, I am certain that early interference after the primary amputation is a serious mistake. It requires a great deal of forbearance on the part of the surgeon to allow a patient with a large, raw, granulating and apparently surgically clean surface to continue month after month without interference. Such patients are themselves usually very importunate that something should be done, on the ground that they are losing time in the process of recovery. I think the truth lies in the reverse statement and that early surgical interference tends to loss of time at the best in these cases.

After all, the ultimate result to be aimed at is to secure an amputation stump to which an adequate artificial limb can be fitted. This requirement is fulfilled by a stump in which the muscles which are not called upon to exercise their functions of contraction and retraction any longer, have become atrophied and retracted to the maximum extent. During the time that the patient is waiting for his secondary operation, these processes are going on. Moreover, the ideal stump is one in which healing has occurred by first

¹ Read at a Meeting of the Queensland Branch of the British Medical Association on May 7, 1920.

intention. The likelihood of this happening increases in proportion to the period of time the primary amputation stump is allowed to wait before secondary operation is performed.

From these considerations I favour the rule in a guillotine amputation, in which normal healing by granulation is going on, to wait six months before performing re-amputation or a plastic operation. In stumps with complications, such as abscess formation or necrosis of bone, this period should be prolonged. If, at the end of six months, the wound shows healthy, pink granulations and the discharge is serous, secondary operation may be safely performed. During the waiting period the patient in many cases, especially in amputations below the knee, may be encouraged to walk by fitting with an appliance on the principle of a walking calliper with a padded ring round the groin and side irons which are fitted below with a wooden peg. A webbing strap fixed to the ring is worn round the opposite shoulder and the stump is held to the side irons by means of bands of bed-ticking in front and behind. This is a specially suitable apparatus for unhealed stumps, as skin extension can be kept up while it is being worn.

Secondary Operation on Guillotine Stumps.

As mentioned before, a guillotine amputation stump treated carefully by skin extension may not require further operation. As a rule, however, a second operation is required to remove a large scar adherent to bone or it may be necessary to remove bone to secure an adequate stump. In performing these operations, two principles which have been emphasized during the war, will, if adhered to, save a needless sacrifice of bone: (i.) In guillotine amputations of six months' standing, as opposed to the conditions in a primary flap operation, the possibility of retraction of muscles may be absolutely neglected. (ii.) The only tissues which are necessary to form efficient flaps, are skin and subcutaneous tissue. No muscle whatever need be included in the flaps.

If either of these principles be departed from, bone is unnecessarily sacrificed. This is obvious, for, if the surgeon does not realize the truth of these two principles, he naturally removes sufficient bone to allow his unnecessarily bulky flaps to meet. The end result of an amputation in which large masses of muscle are included in the flaps, is a stump with a soft, flabby end, due to atrophy of the included muscle. The ends of such stumps usually give a great deal of trouble. They are generally painful, probably as a result of the loose, flabby mass dragging on the nerve stumps; they always cause trouble when the patient comes to wear an artificial limb, by doubling up round the end of the bone and getting pinched between the bone and the bucket of the replacement. These conditions often cause sufficient inconvenience to necessitate a further plastic operation. In any case the flabby portion of the stump beyond the end of the bone is useless for purposes of leverage in manipulating an artificial limb.

Technique of the Operation.

If the wound is open, the patient should be at rest in bed for three days preceding operation, the wound being dressed daily with mild antiseptics. I prefer

not to use a tourniquet, as it tends to increase the amount of capillary oozing following the operation. An incision is made round the stump six millimetres from the margins of the scar and the skin and subcutaneous tissues are retracted by some form of catch forceps. All scar tissue is now excised freely *en masse* down to the end of the bone, an attempt being made to pass the knife just free of the scar through healthy tissue. The instruments used in this procedure are discarded and freshly sterilized ones used for the remainder of the operation. The flaps are now slightly undermined in the plane of the deep fascia, special care being taken to divide freely any bands of scar tissue which pass upward beneath the skin, as these, if left, lead to puckering of the skin later. An attempt is now made to approximate the edges of the divided skin. If this can be done, even under slight tension, re-amputation is not necessary. The end of the bone is examined and if spurs are present, they are removed. If the front of the tibia or femur show a sharp, right-angled edge, a small oblique section of bone should be sawn off from the front of the bone end and the edges rounded with nibblers. This will prevent a sore spot developing in front of the end of the stump when the patient comes to lift an artificial limb in striding forward.

If the edges of the flaps cannot be approximated without undue tension, sufficient bone is removed to allow of accurate approximation without tension. If possible, this is done subperiosteally and the end of the bone is trimmed, as detailed above. Below the knee it is very important to divide the fibula at least 2.5 cm. above the plane of section of the tibia. The large nerves and vessels should be dissected up for a few centimetres and divided. An attempt should be made to find the larger cutaneous nerves, which should also be dissected well back and divided. Where practicable, a terminal scar should be avoided, but under no circumstances should bone be sacrificed to secure this result. It is often possible by means of the above technique to arrange to have the scar in any coronal plane that may be desired. The important points to remember in this connexion are that a posterior scar is the least likely to be subject to pressure from an artificial limb. Below the knee, especially if there is not much spare skin in the stump, it is important to have a transverse scar. The closer the amputation is to the knee-joint, the more important this is, the reason being that in the majority of the types of below-knee artificial limb, the weight is taken on the lateral aspects of the upper part of the stump. This tends to stretch the skin over the underlying tissues, as in pulling on a stocking. If the scar is antero-posterior, the continual repetition of this process tends to drag the flaps apart at the site of the scar. Constantly repeated traumata of this kind lead to a chronically irritated scar, which frequently breaks down and in many cases a plastic operation is necessary to relieve the condition, the object of the operation being to make a transverse scar.

For the same reason in amputations above the knee an antero-posterior scar is preferable, but failure to secure one does not lead to trouble as often as in similar circumstances below the knee, because the skin is not so tightly fitted to the bone in the thigh.

There are two sites for amputation where, for reasons which will be set out, the advantages gained by the conservation of the maximum possible amount of bone are, to my mind, outweighed by disadvantages. These sites are: (i.) The mid-tarsal joint, the so-called Chopart's amputation; (ii.) the other is the lower third of the leg.

Chopart's Amputation.

This amputation provided very few useful stumps during the war. The operation necessitates division of the extensor tendons and, as a result of unopposed action of the flexors added to the effects of gravity, a well-marked *equinus* deformity almost invariably develops. I know of no satisfactory treatment to prevent this deformity and no sure method of cure when it occurs. As a result of this, the bearing surface of the heel cannot be put to the ground and the patient cannot be satisfactorily fitted with a replacement. Hence the advantages of having a natural ankle joint cannot be made use of. In practically all these cases the best results will be secured by performing Syme's amputation.

Amputation Through Lower Third of Leg.

With the laudable object of leaving as much bone as possible, many amputations have been performed during the war with the level of bone section from 7.5 to 10 cm. above the ankle-joint. Some of them have led to a fairly satisfactory stump, but in my experience the majority have been far from satisfactory. I think the explanation is an anatomical one. The greater part of the structures at this level consists of tendons which require and receive a poor arterial supply. The large veins in this area have to support long columns of blood and so the circulation in the veins is sluggish. Hence this area is a very unfavourable one for healing and a very favourable one for the development of all the phenomena associated with chronic venous congestion. It will be remembered that it is a common site for varicose and other indolent types of ulcer.

These are probably the main reasons why wounds in this area are slow to heal and break down on the slightest trauma after healing has been completed.

Amputation stumps in this area, even in the absence of sepsis, heal slowly and, when healed, the end of the stump is usually cold, livid and ill nourished and the scar is often sensitive and shows a disposition to break down readily. Moreover, marked oedema of the last few centimetres of the stump always occurs and may persist for months or even years, greatly interfering with the use of an artificial leg. The oedema is often produced by slight exercise and if vigorous walking exercise be taken, the swelling very often is so severe as to prevent the patient from wearing his limb for a few days.

On these grounds I think that where the surgeon has his choice of site for amputation below the knee, if a Syme's amputation is impossible, it is best to amputation through the middle third of the leg, a long anterior flap with a posterior transverse scar or an antero-external flap after the method of Farabeuf being used.

Amputations in the Neighbourhood of Joints.

A frequent problem which faces the surgeon in the case of injury or disease a short distance below a joint is the choice between amputation below the

joint, disarticulation or amputation above the joint. The advantages of conserving the joint if the amount of stump that can be left below it is going to be of any use, is obvious. The question is what is the maximum length of bone below each joint which it is possible to make use of as a lever to swing the bucket of an artificial limb in walking.

For the knee-joint I think it is useless to attempt to fit a below-knee stump in which there are not at least five centimetres of tibia, the measurement being taken from the level of the joint in front and behind the stump. Such stumps require special fitting, which will be referred to later on. If it is decided that the knee-joint must be sacrificed at a primary amputation for trauma, disarticulation, with removal of the patella, is the operation of choice, on account of the ease and rapidity with which it can be performed.

Where a choice of amputation is offered at a secondary operation for trauma or a primary operation for disease, the surgeon should bear in mind that amputations in or just above the knee-joint provide, as a rule, a good end-bearing stump. He should therefore keep the scar away from the end of the stump and should make use of the skin which is accustomed to bearing weight in kneeling. In other words, he should provide a long anterior flap, with the scar well to the back of the stump.

I consider retention of the patella a disadvantage, as it makes the bearing surface irregular and, unless fixed to the femur, it robs the bearing surface of the necessary firmness and is liable to tilting movements, which make walking painful.

A simple disarticulation at this joint has the disadvantage of providing a very bulbous stump, which is difficult to fit with an artificial limb. On these grounds I would recommend as the operation of choice in this region a transecondylar amputation, with removal of the patella; in other words, the homologue of a Syme's amputation in relation to the ankle-joint. Great care should be taken in this operation to round off the sharp edge of the front of the femur after making the bone section, so as to avoid a tender pressure spot in front of the end of the stump, when the patient comes to use an artificial limb.

Amputation Around the Hip Joint.

The minimum length of femur in a stump which can be adequately fitted with a replacement, is 6.25 to 7.5 cm. below the lesser trochanter, provided that the scar is a satisfactory one. Amputations above the lesser trochanter can be fitted, if the hip-joint is fully mobile by flexing the stump to a right angle and fitting with a pelvic tilting table. This replacement is fitted round the buttock and pelvis and is moulded out in front to accommodate the flexed stump. Movement is effected by the *erector spinæ* and lumbar muscles. For stumps of length intermediate between these levels, or in which the scar is badly adherent or tender, the best treatment is disarticulation at the hip and fitting with a pelvic tilting table. In thigh stumps with an ankylosed hip joint, the patient is unable to sit down and so his condition is intolerable. The only sure method of treatment is disarticulation at the hip. Arthroplasty is occasionally successful, but usually does not leave a joint sufficiently stable for the manipulation of an artificial limb.

Deformities of the Hip Joint.

Flexion and abduction are the commonest and are often combined. Prolonged forced movements cure more than half the cases, but, if the deformity is resistant to this treatment for more than three months, all the contracted structures should be cut, if necessary by open operation, followed by prolonged fixation of the pelvis and stump in a plaster cast. An artificial limb cannot be satisfactorily fitted to an abducted stump, or to a stump in which flexion deformity of more than ten degrees is present.

Replacements.

The functions of an amputation stump are:—

(i.) To provide a bearing surface from which the body weight is transmitted through an artificial limb to the ground; and (ii.) to carry the artificial limb in the various movements involved in walking. Hence as soon as operative procedures are completed, the surgeon's efforts are bent upon getting the stump into a fit condition to perform these functions efficiently.

Massage and Movement.

As soon as the amputation wound is healed, the joint or joints in the stump should be put through their full range of active and passive movement at least twice daily. Massage of the stump with the object of increasing the nutrition of the muscles is often seen, but is a stupid procedure, as the stump cannot be fitted satisfactorily with a permanent artificial limb until it has ceased to atrophy to any appreciable extent. Hence unless some special indication for massage, such as excessive oedema, is present, physio-therapy should be confined to active and passive movements.

Meanwhile the measurements for a peg-leg or other temporary form of replacement should be taken and within a month of final healing, the patient should be discouraged in every way from the use of crutches and encouraged to wear a peg-leg under daily skilled supervision. As atrophy goes on, the patient should wear extra stump socks. This method usually keeps the patient comfortable for a few months and then a new bucket for the temporary replacement may have to be provided. The rate of atrophy varies greatly in individual cases, but the important point is that the process is greatly accelerated by wearing a peg-leg. If the patient's first replacement is a finished, artificial limb, it will be found usually that, after he has worn it for a very short period, atrophy has gone on so quickly that it is useless. The great advantages in providing a temporary replacement as soon as possible are: (i.) It gives the patient a healthy psychological stimulus, by approximating his method of locomotion to the method in an unmaimed individual. (ii.) It brings out any defects in the stump, such as a faulty scar, a tender nerve bulb, or a quiescent focus of sepsis. (iii.) It serves to "harden up" the bearing surfaces of the stump. The last point leads us to a brief consideration of the problem of bearing surfaces. What parts of the surface of the stump are to be selected to perform the all-important function of transmitting the body weight to the artificial limb in walking? The idea of the layman usually is that the weight is taken on the end of the stump; he knows that in the intact limb the sole of

the foot takes the body weight and by a simple process of deduction he places the weight-bearing surface at the termination of the amputation stump. In the early days of the war not a few medical men had a similar idea and I have seen a peg-leg with a special attachment designed to harden up the end of the stump (irrespective of its situation and condition), by forcing it to take more and more weight. I can well imagine the horrors which some of the victims of this delusion must have gone through.

Now, to my mind, the principles to work on in considering the problem of weight bearing are:

(i.) Do not sacrifice bone for the sole purpose of securing an end-bearing stump.

(ii.) The lower the level in the stump where the weight is taken, the better is the patient's balance and sense of projection.

(iii.) The only amputation stumps in which the total weight can be taken with consistent comfort on the end of the stump, are those in which the end is formed of skin which has been habitually a bearing surface before the patient lost his limb.

Weight-Bearing Surfaces.

The sites most favourable for weight-bearing are those in which the skin under normal conditions is adapted to bear weight. These sites in the lower limb are the heel, the front of the knee-joint and the *tuber ischii*, which are habituated to take the body weight normally in standing, kneeling and sitting respectively. If these areas of skin are included in the end flap of an amputation, the patient can usually wear a replacement in which all the weight is taken by the end of the stump. Such amputations are Syme's and the various amputations at the knee-joint up to the level of a supracondylar amputation.

If such skin flaps are not included in the end of the stump, a certain amount of end-bearing may be taken, but, as a rule, it is only a small proportion of the total bearing required. The greater part of the weight has to be taken at some other area on the surface of the stump.

Some artificial limbs are made on such a principle that a large proportion of weight is taken by the soft tissues in the stump. This is usually effected by tightly laced thigh corsets.

To my mind, it is a serious mistake, as it interferes with the circulation in the stump, impairs the function of muscles and in amputations below the knee leads often to serious pressure atrophy of the thigh muscles. If weight cannot be taken at the end of the stump, it should be taken by some other solid bony projection; thigh corsets should be loosely laced. For thigh amputations which are not end-bearing, the *tuber ischii* offers a natural bearing surface, provided with a special subcutaneous bursa, and the top of the bucket should be moulded so that the weight can be comfortably borne at this area.

In amputations below the knee which are not end-bearing, the weight should be taken on the sloping inner surface of the inner tibial condyle, on the *ligamentum patellæ* and to some extent on the tubercle of the tibia. In practically no case can weight be taken by the head of the fibula, as the skin over it is very delicate and is not adapted for weight bearing. If the patient is forced to take weight on

the head of the fibula, an adventitious bursa, which often becomes infected through skin abrasions, is a frequent result.

If, for any reason, in an amputation below the knee all the weight cannot be borne in these areas, the bulk of it may readily be taken on the *tuber ischii* by fitting a short, rigid thigh corset high up and moulding it to receive the *tuber ischii*. The latter method gives good results, but the patient has not as accurate a balance or sense of projection as when the weight is taken around the knee region.

Fitting of Short Stumps.

In fitting up short thigh stumps the risk to be guarded against is that the stump does not slip out of the bucket when the patient sits down. To prevent this the bucket should come well up on the front of the thigh and over the greater trochanter and a pelvic band should be provided. A pelvic band should be rigid and should be attached to the outer side of the bucket by a steel shank jointed opposite the hip joint. The band closely embraces the bony pelvis, just below the iliac crest.

Very short stumps below the knee can be prevented from slipping out of the bucket by being fitted with a so-called "inside sock," made of chamois leather or similar soft flexible material. The sock is laced firmly round the lower 7.5 cm. of the thigh and the stump fits accurately into its lower end.

The end of the sock is attached by two raw hide bands to the inside of the bucket; thus, when the patient strides forward, instead of the short stump slipping over the top of the bucket, tension is transmitted from the thigh to the bucket through the raw hide bands and the bucket and stump move forward as one piece.

VINCENT'S DISEASE.¹

By J. V. Duhig, M.B. (Syd.),

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I am moved to contribute a few notes on Vincent's disease, as lately some new aspects of the condition have come under my notice and as the literature is up to the present relatively scanty, I thought it well to arrange the established facts in this connexion in some order for presentation before you.

By Vincent's disease I mean infection by a definite organism in any part of the body, including the Vincent's angina. This latter term is very misleading and should be dropped, as suggesting that the disease is confined to the throat. I shall show that it may occur in other parts of the body and produce symptoms severer than usually associated with the disease in the minds of practitioners.

Vincent's disease of the mouth and fauces is the form most commonly seen. Its characters are a foetid, sloughing ulceration, usually of the right tonsil and confined to that tonsil and, more rarely, an ulceromembranous condition simulating diphtheria, caused by the fusiform bacillus of Vincent. Associated usually, but not always, with the bacillus in smears from an infected part one finds a spirochete of varying morphology.

The bacillus measures from 5 μ to 12 μ in length, pointed at the ends and usually bent, not straight. It is a strict anaerobe and grows best in serum, ascitic fluid or hydrocele fluid agar. I have succeeded in securing a satisfactory growth on blood-smeared agar. The growths resemble those of streptococcus, that is, pale, but are denser. It is Gram-negative and stains well with fuchsin or methylene-blue or Leishman's stain. The bacilli sometimes tend to stain irregularly, leaving one or more unstained portions in the middle of the bacillus—the ends always stain well. The bacilli then show up in barred forms. The spirochaetes vary greatly in length and are extremely irregular in shape and stain more faintly than the bacilli. They are actively motile in the fresh state. They have not been cultivated and the opinion is generally held that they are degeneration forms of the bacilli. This is the view of Tunnicliffe and I can confirm it in so far as I found no spirochaetes in fresh culture and later found intermediate forms. I did not, however, find true spirochaetes.

The disease in the mouth was endemic in the troops in France and Belgium and amongst the peasant and industrial classes of those regions. It was amongst the troops that the best work on the disease was done. Speaking from memory, I should say the number of evacuations from the First Division after the armistice would be about five per day suffering from Vincent's disease of the fauces. The disease is more widespread amongst the civil population than is suspected. Patients suffering from a chronic periodontitis and gingivitis carry the organisms in their mouths and infect all and sundry. This is very easy, as the disease is extremely infectious and is transferred by eating and drinking utensils. There must be thousands of demobilized "carriers" in civil life now.

The disease in the fauces is characterized by either (a) a membranous ulceration of the tonsil, resembling diphtheria (this is the rarer form), or (b) more commonly by foetid, sloughing ulceration of the tonsil, attended by dysphagia and discomfort. In the majority of cases of the disease that I saw (and I saw scores of them) the disease was confined solely to the right tonsil. Beyond the feeling of discomfort there are usually no constitutional symptoms. The glands of the neck may or may not be affected. A striking feature is that the temperature rarely rises; it is uncommon to find a temperature above 37.2° C. I have noticed invariably small white patches of circumscribed necrosis on the lower gum of the same side, one usually being situated at the level of the lateral lower incisor tooth, deep down in the gum about the roots of the teeth. Acute gingivitis and pus formation round the teeth do not necessarily occur. These lesions may occur, but are usually more characteristic of the chronic disease in "carriers."

The diagnosis is easy. Scarlet fever presents sufficiently characteristic symptoms. Diphtheria is always associated with the Klebs-Löffler bacillus. From syphilis I shall discuss the diagnosis later. The main points are a foetid, sloughing, unilateral ulceration (usually right-sided), without fever or constitutional disturbance and the presence of the causative organisms. I have not found Klebs-Löffler bacilli in smears. The onset and progress of the disease are extremely

¹ Read at a Meeting of the Queensland Branch of the British Medical Association on May 7, 1920.

rapid. I saw one case where the cheek was perforated. Sometimes the odour is appalling. It is a striking feature of the disease that such a violent local lesion produces no constitutional symptoms. In one case I saw a diffuse punctiform rash on both flanks. The treatment of the disease in the mouth should be left to a competent dentist. The teeth and gums should be thoroughly cleansed, with the least instrumentation compatible with this ideal and vigorous local treatment then carried out. But local treatment is futile without the preliminary dental cleansing. The routine army treatment was swabbing with pure *liq. arsenicalis*. The patient was also instructed to hold this solution in the mouth for a few minutes. Others recommend sodium perborate or Dobell's solution. Strong antiseptics should not be used, as tending to increase the necrotic area. In malignant cases not yielding to treatment intravenous injections of salvarsan or its substitutes, say, neo-salvarsan, 0.6 grm., should be tried. This promises good results.

The description I have given of the faucial disease applies to the disease in the gums. This I will not discuss, as it is easily recognized and comes more within the province of the dentist. It should not be confused with *pyorrhæa alveolaris*.

Vincent's Disease in Other Parts of the Body.

Infection by Vincent's bacillus may occur in the female genital tract. I have seen one case and was struck by the almost complete absence of spirochaetes in smears. This may be explained by the comparatively good anaerobiasis of the tract, which keeps the culture as it were virulent and prevents degeneration. This would fit in with the cultural characters *in vitro*. It seems to me that the deeper the infection, *i.e.*, the more the bacillus is protected from access of air, the fewer spirochaetes will be found in the smears. Infection may occur also in the respiratory tract. It is this fact I wish specially to bring to your notice. I know of only one case in the limited literature of the disease to which I have access. I have examined the sputum of two patients. In both instances symptoms resembling those of tuberculosis arose, but in one case the disease was of too long a duration and the patient's general condition was too good to warrant a definite diagnosis of tuberculosis. The other patient had repeated small hæmoptyses after fatigue or exertion, without impairment of the general health. In both cases the sputum was identical. It was extremely fetid, of watery consistence, with practically no pus cells and pyogenic organisms were very scanty in the stained slide. The field swarmed with the bacillus of Vincent and large numbers of spirochaetes.

It was from the second case I secured a culture and prepared a vaccine. I have since been informed that this woman has done remarkably well. She has gained 6.3 kilograms in weight and her cough has decreased. Good results have been reported from the use of vaccines and moreover local treatment of the bronchi is difficult. I might mention that in neither case was there any sign of the disease in the mouth. Personally I am convinced that Vincent's disease of the bronchi may occur and give rise to symptoms similar to those of tuberculosis. The only case I have seen reported resulted in death.

What the lesion is I cannot say, never having seen a case *post mortem*. It is reasonable to suppose that there would be a sloughing ulceration, bleeding and fœtor in acute cases and in chronic cases a catarrhal condition confined to the mucosa, with a watery, offensive discharge, analogous to the conditions in the oral disease.

In the second case I mentioned, the hæmoptyses and the presence of a very regular spirochaete (I saw two in the slide) made me suspect a bronchial spirochaetosis, described by Castellani. Since this time my routine examination of sputum consists of the staining of slides by Ziehl-Neilsen's method, Leishman's stain, methylene blue or fuchsin and Gram's method. This excludes tuberculosis, bronchial spirochaetosis of Castellani, Vincent's disease and diphtheria, which last do occur in the lungs, as noticed by a French observer. It should be remembered that a variety of conditions may attack the bronchi and lungs, apart from the usual pyogenic organisms, pneumococci, etc..

It was commonly believed that the serum of persons suffering from Vincent's disease gave a positive complement fixation test with a syphilitic antigen. The view was supported by no less a person than St. Clair Thomson(1) on entirely insufficient grounds. Taylor and McKinstry(2) tested the serum of 55 cases taken at random from 300 soldiers suffering from fusio-spirillary infection. Two only gave a positive reaction and were conclusively proved to be Vincent's disease in subjects of latent syphilis.

The diagnosis of the disease, which is what mainly concerns me, is therefore comparatively simple. Bacteriological examination will reveal the typical organisms and, if on serological examination the serum yields a positive complement fixation, "then a double infection exists, either as a coincident syphilitic and Vincent's infection or as the occurrence of Vincent's disease in the subject of latent syphilis."

In conclusion, I should say that, in view of the persistence of the infection and its extreme infectiousness, no case should be considered cured until two bacteriological examinations at intervals of, say, fourteen days have given a negative result.

Literature.

- (1) St. Clair Thomson—"Diseases of the Nose and Throat," Second Edition, 1916.
- (2) Taylor and McKinstry—"Proceedings of the Royal Society of Medicine, January, 1917; Proceedings of the Royal Society of Medicine, March, 1917; British Medical Journal, 1917, Vol. I. p. 421; British Medical Journal, January 19, 1918.

FOOD POISONING DUE TO BACILLUS ÆRTRYCKE.

By Robert Dick, M.B., D.P.H.,

Medical Officer of Health, Hunter River District, New South Wales.

On May 3, 1920, Dr. Hocken, of West Wallsend, telephoned that there had been from 15 to 20 cases of acute gastro-enteritis amongst his patients, the onset in all cases being at about the same time on the same date.

I made an investigation into the matter and also visited a number of the patients. Dr. Hocken also kindly supplied me with some details of the early symptoms exhibited by the patients. The history of

one or two cases may be given in illustration of the whole group:—

1. M.M., a female, aged 16 years, bought 100 grammes of "German" sausage at the butcher's at 5 p.m. on Thursday, April 29, 1920, and ate it for "tea" about 6 p.m. on the same day. On Friday, April 30, at mid-day (18 hours later) she got acute diarrhoea, colic and cramps in her limbs. The stools are said to have been very frequent, green and offensive. She was the only person amongst the inmates of the household who ate the sausage and the only person ill.

2. W.W., a male, aged 30 years, bought 450 grammes of "German" sausage at 4.30 p.m. on April 29, 1920. He and his wife ate some at breakfast on the following morning and he was also supplied with some for his lunch. In the early hours of May 1, 1920, both were attacked with acute diarrhoea, green stools, colic; in the case of the wife vomiting occurred later.

Several of the patients were severely ill and remained in a weak condition for several days. One patient, a male, *æt.* 35, died from toxæmia and exhaustion on the third day after onset of diarrhoea.

No sample of the incriminated sausage was obtainable.

As none of the stools of the patients were available, I took some blood from two of the male patients who had been rather seriously ill and sent it to the Bureau of Microbiology, Health Department, Sydney, for agglutination reactions against *B. enteriditis* and *B. ærtrycke* and other food-poisoning organisms. The report received stated that the serum from both cases was positive for *Bacillus ærtrycke* 1 in 60 in 30 minutes, negative to *B. enteriditis* and paratyphoid.

From the symptoms shown by these patients and the results of the sera reactions, I conclude that this is an example of food poisoning due to *B. ærtrycke*.

This organism has been found to have been responsible for several large outbreaks of food poisoning. One of the most extensive of which I am aware occurred in a convalescent camp in France in 1918, when there were more than 1,000 cases. Certain types of cases resulting from *B. ærtrycke* infection closely resemble cases of paratyphoid. The differentiation of the causative agent is somewhat involved, owing to the group reactions. It may be that absorption methods are required to elucidate the problem.

Reports of Cases.

SPLINTER OF WOOD IN ANTERIOR CHAMBER.¹

By J. Lockhart Gibson, M.D. (Edin.), M.R.C.S. (Eng.),
Brisbane.

A boy, aged 7 years, was sent to me nine days ago by Dr. Robertson, of Childers. He had been stooping into lantana the previous day and a splinter of wood entered his right eye.

A fine splinter (1 cm. in length) had evidently penetrated the cornea near the outer limbus, passed obliquely into the anterior chamber and crossed it, to be brought up sharply at the irido-corneal junction on the other side. The lens had not been injured, nor the iris, except where the end of the splinter impinged. The splinter was clothed with yellowish pus-like exudation and there was a 1 mm. deep hypopyon at the angle of the anterior chamber above and below the inner end of the splinter. The eye was injected.

The outer end of the splinter had broken off sharp at the surface of entrance. It was pulled out whole the same day, as you see it now. The fine forceps had to enter the wound before they could grasp it. There was no apparent change in the appearance after removal of the splinter. The sheath

of pus-like exudation persisted as a perfectly straight cord and the hypopyon also remained. For two or three days little change occurred, then the hypopyon cleared up and the pus sheath began to get thinner and to become absorbed at each end. The end furthest from the entrance wound disappeared first and then the cord of pus began to curl up a little. Instead of a straight line, now it is a little corkscrew half its original length and projecting partly backwards from the attachment of its external end to the cornea.

This you will see very clearly. You will also note that the pupil has enlarged equally under atropine and that there is now little sign of injection. I expect the exudation to disappear entirely and the eye to be none the worse.

It is remarkable that so long and fine a splinter, hardly thicker than a pig's bristle, should be capable of penetrating so dense and hard a tissue as the cornea and to do so without bending or breaking. If any of us were to take an ordinary sewing needle and try to push it through the cornea he would fail. It would require to be jabbed hard at it.

One is accustomed to see a line of pus behind the cornea feeding a hypopyon from an infective ulcer, but for a sheath apparently of pus to remain unaltered in the anterior chamber after the removal of its support and for two or three days, though entirely surrounded by aqueous, is peculiar. It was not being added to from the entrance wound. The fact that this sheath of pus and fibrinous exudation formed within 24 hours proves how infective the splinter must have been.

Some years ago I had a somewhat similar experience. A fine splinter of a very hard wood, about half the length of the present piece, had penetrated the cornea of a young man near the limbus. It had crossed the pupil without wounding either lens or iris. Its end was free in the anterior chamber. It was impossible or too risky to try to grasp the sharply broken off outer end, which was fixed in the corneal limbus. I, therefore, introduced a keratome just behind the entrance wound, passed a fine forceps into the anterior chamber through the keratome wound, grasped the splinter and drew it gently further into the anterior chamber and so disengaged its outer end from the cornea. It was then drawn out of the keratome wound without injuring either iris or lens. There had been no exudation around the splinter and the eye settled down at once to be as good as before.

NEURO-MUSCULAR ATROPHY.

By Arthur Watkins, M.B., B.S. (Melb.),
Griffith, New South Wales.

In connexion with a case reported by me in *The Medical Journal of Australia* of February 28, 1920, I would like to draw attention to an exactly similar condition in a younger member of the same family—a sister of A.B.. On observation I was struck by the similarity in physique and features of the two sisters. They each have prominent foreheads, pointed chins and pale complexions. The big shoulders and chests of these two girls give them an ill-balanced appearance, suggestive of immense strength. This is illusory, for they have wasted forearms and hands. The following is a clinical account of the case of the second sister:—

Miss C.D., *æt.* 14 years, at present employed in domestic duties. Her parents noticed, when she was three years of age, that her feet "got thin" and "turned in." Twelve months later her arms and hands began to waste. The wasting was more apparent in the lower limbs. The other parts of the body grew, but the limbs had always remained thin. She could always walk without support, but during the past year she has noticed that her feet "double under her." Her hands and feet are often very cold. On examination I found wasting of the muscles from the elbows downwards to the hands and from the knees down to the feet. No other muscles are affected beyond these limits. The circulatory and respiratory systems appear to be normal. The cranial nerves are not affected. The tendon phenomena are very exaggerated. There are no fibrillary tremors in the affected parts and the patient does not complain of cramps, tingling or the like.

Charcot-Marie-Tooth's atrophy is a family disease, usually affecting the male members. I regard the signs and symptoms in the second girl as strong confirmatory evidence of a correct diagnosis of neuro-muscular atrophy.

¹ Read at a meeting of the Queensland Branch of the British Medical Association on May 7, 1920.

Reviews.

THE INFECTIOUS FEVERS.

Many of the medical practitioners of the Commonwealth have studied medicine in Great Britain. Whether they have derived advantages in the methods of teaching or in the facilities for learning or not, we do not propose to discuss, but it is quite certain that they need to relearn many things on account of differences which exist in the types of disease in this part of the world as compared with other continents. In no branch is this more marked than in that of the infective processes. For this reason, if for no other, the Australian student and practitioner are to be congratulated on having a very excellent description of the diseases diphtheria, morbilli and scarlatina at their disposal. Dr. Frank V. G. Scholes, the author of this book,¹ has drawn from an extensive experience. He possesses the gift of accurate and clear conveying of ideas, which distinguishes his work from the usual monograph of this kind. He prefaces his lectures with some modest apologies. The main facts on the pathology, diagnosis, prognosis and treatment are set forth, according to the author, in the briefest possible way. The exclusion of redundancy is, in our opinion, a virtue of the book, greatly to be admired and appreciated. Again, he refers to some introductory notes on infection. He asks the *savant* to scan them tolerantly or to skip them entirely. We recommend those who wish to understand the nature of the processes involved in these infections, to read this introduction carefully. It is a very useful, albeit somewhat elementary, account of the conceptions held concerning the mechanism of infection. It is a matter of small moment that Dr. Scholes elects to accept Victor Vaughan's theory of the toxophoric and haptophoric moiety of the protein molecule. He avoids, as all good teachers do, all discussion on the merits of the theory and uses it merely for the purpose of presenting a plausible conception of what may be taking place in the infected organism.

In the first lecture Dr. Scholes gives a short but quite excellent account of Ehrlich's doctrines of the toxin of diphtheria and then passes on to a description of the clinical manifestations of the disease, always reverting to the pathology, so that the student may grasp the significance of the process at every stage. He starts with the site of local infection and explains in a fascinating manner the reasons for the appearance of toxic and of mechanical symptoms arising according to the situation of the lesion and of the membrane. The teaching becomes all the more convincing because it is illustrated with references to the frequency of individual signs and symptoms among the numerous patients at Fairfield. The rôle of the coccus complicating the bacillus of diphtheria is set forth very clearly and the student will have no difficulty in handling those infections which tend to spread to the cervical lymphatic glands and to the middle ear, if he takes heed of what Dr. Scholes tells him. In regard to *otitis media*, we regret that the author has allowed himself to imply that the tympanic membrane may be left until it bulges with pus before incision is carried out. We admit that in practice this usually occurs, but it is a grave misjudgement. As soon as a suppurative lesion of the tympanum can be reasonably suspected, the drum should be carefully incised. Much subsequent trouble would be avoided if this were done. The practitioner should be ashamed of himself if he allows any of the five serious results to arise in a patient with *otitis media* complicating diphtheria. In the second chapter or lecture, the author enumerates the types of diphtheria and describes their characters. The distinction of mild, moderately severe, very severe and malignant diphtheria may be somewhat dangerous to adopt in teaching students. Not infrequently an infection that appears to be mild, assumes a severe type and a life may be lost, if too much reliance is placed at an early stage on the mildness of the signs of toxæmia. At the other end, Dr. Scholes makes no mention of a rare but highly dramatic form, hemorrhagic diphtheria. In the third chapter he passes on to the diagnosis and to the prophylaxis.

The first part is excellent and should be studied with extreme care by the student.

In the matter of prevention, Dr. Scholes has a lesson to teach the health authorities in the Commonwealth. They should read, mark, learn and inwardly digest this chapter. He finds that "at the present time the legal obligation is on the health officer; the moral one on the physician." The legal obligation is usually interpreted as meaning that the health authority waits until the local authority makes a move; and writes about it in an annual report. Dr. Scholes grasps the position. He is not scared by a difficult task. He sees how diphtheria can be attacked and he does not hesitate in advocating the real measures of prevention and in throwing out all make-believe expedients.

The fourth, fifth, sixth and seventh lectures are concerned with treatment, prognosis and the management of laryngeal diphtheria. They are all excellent and highly instructive.

The two chapters on measles are concise and good. There is a strange dissimilarity between morbilli in Australia and morbilli in England. Here it is a relatively mild affection, very wide-spread and easily missed. In some of the fever hospitals under the Metropolitan Asylums Board of London, it is a dreaded infection, with a mortality varying in different epidemics from 2% to 40%. When complicated with diphtheria, it represents a deadly complaint from which but few recover. It is different here.

Scarlatina is dealt with in five lectures. The discussion on susceptibility is almost amusing. Dr. Scholes adopts the view, widely held, that young people are more or less susceptible, while adults are but little prone to acquire the infection. He relies to some extent on the well-known Faroe Island statistics. It is not quite just to compare the infectivity of scarlatina with that of morbilli. The infectivity is absent until the rash appears in scarlatina. Consequently the number of persons exposed to infection in a general community is less than in the case of morbilli, in which the patient is infectious before he takes to his bed. Some years ago the management of the Metropolitan Asylums Board hospitals instituted a rule that no assistant medical officers could be appointed who had not had scarlatina. This was rendered necessary because every young man taking on duty in the hospitals, either as a permanent officer or temporarily, acquired the infection if he had not previously had the disease. In all cases the incubation period was short. Dr. Scholes gives an excellent account of the long incubation period in scarlatina and reasons plausibly as to its significance. The remainder of the description is just as good as the other parts of the book. We refrain from discussing some points on which he expresses very definite views, because none of them are material and space does not admit of it. In conclusion we hold the opinion that these lectures are most admirable and recommend every medical student and the majority of medical practitioners to buy a copy of the book and to read it with care. Even an experienced practitioner will find something to learn from its pages. The author is a first-class teacher and a singularly clear thinker.

THE MILK SUPPLY OF BRISBANE.

On June 2, 1920, Sir David Hardie, President of the Queensland Branch of the British Medical Association, and Dr. A. Jefferis Turner attended the Arbitration Court, presented a resolution of the Queensland Branch concerning the delivery of milk (see *The Medical Journal of Australia*, May 15, 1920, page 472) and gave evidence in support of the resolution. His Honour, Mr. Justice Macnaughton, adjourned the hearing for the purpose of allowing the parties to confer on the terms of the proposed amended award. He did this largely on the ground that the medical evidence had placed the matter in a totally different light. One June 10, 1920, it was announced that the parties had been unable to come to an agreement. His Honour pointed out that medical evidence was strongly in favour of the continuance of two deliveries a day. He was inclined to put both warm and cold milk vendors on one footing. After some further discussion His Honour fixed the hours for cold milk vendors at 48 hours weekly and for fresh, warm milk vendors at 54 hours weekly. He thought that if the hours for work were fixed at between 4 a.m. and 6 p.m. it would suit the parties. The terms of the award will be published after a further meeting.

¹ Lectures to Students on Diphtheria, Measles, Scarlatina, by Frank V. G. Scholes, M.D., B.S. (Melb.), D.P.H. (Camb.); 1920. Melbourne: Modern Printing Company, Pty., Ltd.; Demy 8vo., pp. 236.

The Medical Journal of Australia.

SATURDAY, JUNE 19, 1920.

The Osler Memorial.

Yesterday medicine was to a large extent an art based on empiricism; to-day it is rapidly becoming an exact science. From the tiny scraps of knowledge, laboriously wrested from the bosom of jealous Nature, there is gradually arising a library of facts, considerable in extent and important in its application. We are apt to flatter ourselves on account of our knowledge and understanding, forgetful of the immense volume of the unknown and unfathomed. The triumphs of medicine to-day are often regarded through magnifying lenses, while the failures are seen with half-closed eyes, dim, distant objects of small importance. The medical world possesses too few men whose vision is wide and whose power to grasp the need for further information incites them to a life of seeking for truth. A handful of geniuses have arisen, to give mankind great and lasting blessings. Pasteur and Lister stand on pedestals of their own on account of the wonderful work which they accomplished, work on which the modern science of medicine and the art of surgery are founded. And while we stand in reverend awe before the monuments of our greatest discoverers, we must not forget that we have had within the medical profession men whose influence for good has been directed by a very different kind of genius. We have learned of men whose insight into the mysteries of the body in health and disease has been almost uncanny, men who have probed for themselves and have taken nothing for granted. It is no exaggeration to say that the progress in medical knowledge during the past two generations has been due more to the untiring efforts of this class of genius than to the brilliant achievements of the great pioneers. At a meeting held on March 6, 1920, in Oxford, Professor Arthur Thomson said that William Osler began life by studying the causes of disease and ended it as an ardent advocate of the means of preventing disease. It would seem to us that Osler's life was spent in a continuous, restless effort

to fathom the unknown in connexion with disease. He was not satisfied to examine patients, to diagnose the nature of their ailments according to accepted signs and to apply medicaments in the hope that they might work as remedies. Those who knew Osler and those who read his works carefully, will realize that his mind remained untrammelled by the opinions of others. He thought out each problem for himself. He used every means to discover the essential nature of disease processes, to ascertain the causes at work within the body and to reconstruct in his mind's eye a picture of the changes which take place in the transition from the state of health to that of what we know as disease. He did not cease to search for causes; neither did he wait until latter years to value prevention more than cure. His was an exceptional mind; he used it freely to benefit mankind. In his teaching, in his practice, in his personal precept, he cast an influence over the whole medical world that will last. It is fitting that a permanent memorial should be erected to such a man.

We have referred to a meeting held in March at Oxford. At this meeting it was decided to erect as a memorial to this great and admirable man an institute of general pathology and preventive medicine. The meeting was attended by the most prominent members of the medical and of other learned professions of Oxford and London. The motion that a memorial to the late Sir William Osler should be erected was placed in the hands of the President of the British Medical Association. The Council of the Victorian Branch of the British Medical Association, recognizing that the President spoke in the name of the whole Association, has suggested that it would be a graceful act on the part of the members of the Branches in Australia if they would associate themselves with their colleagues in the old country in this movement. Those who have experienced the irresistible charm of Osler's personal influence, will need no persuasion to participate in this undertaking. To those who know Osler through his writings, we would point out that their debt is by no means a small one, for there is scarcely one chapter in medicine which has not been furthered by his extraordinary ingenuity. The Osler Institute of General Pathology and Preventive Medicine will be situated in Oxford. No better site could have been chosen than the ancient

seat of learning. It is of small moment to us that this institute will be twelve thousand miles away. Miles do not count in science. The fruits of the labours of the workers in the Osler Institute will be as available for us to pluck as for the Oxonians. We are therefore inviting the members of the British Medical Association in Australia to subscribe to the fund for the erection of this suitable memorial. Contributions may be addressed to the Editor of *The Medical Journal of Australia* and will be acknowledged in our columns. Cheques should be drawn to the Osler Memorial Fund.

PULLING TOGETHER.

The medical profession, as we have repeatedly pointed out in these columns, exists primarily for the benefit of the public. In every large centre ample provision is made for the thorough equipment of young men and women in the sciences on which medical practice is based and in the art associated with this practice. The privilege of having spent five years and often more during which knowledge of an important kind is amassed, and of being registered as an individual possessed of knowledge and skill in medical work, is very great. To no other group of citizens is the opportunity given so freely of doing good to humanity. The medical profession stands alone in being able to work for the benefit of mankind. Doctors perform more gratuitous acts of kindness than any other set of individuals. They do this because they recognize that they have no right to withhold the knowledge they have acquired in the course of years from any person, no matter how poor or how ill conditioned. Intuitively every medical practitioner feels that his services have to be rendered on humane grounds.

While there is a large altruistic element in the life of a medical practitioner, there remains the hard fact that doctors are human beings who have to earn their living. It costs much money to become a medical practitioner and it also costs a considerable sum each year to maintain a practice. Many people endeavour to take advantage of the proverbial generosity of medical practitioners. How many are full of gratitude when their relatives are ill and the doctor's services are required; when the patient has recovered

and the doctor has to be paid, the feeling of indebtedness is forgotten. It has long been the habit of medical practitioners to meet the less well-to-do of the community half way by arranging a contract at a very low fee for attendance during illness. It is not in the interests of the patients that any doctor should undertake to look after a very large number of persons under the system of lodge or club practice. The necessarily low rate of remuneration and the continual irritation of being obliged to be at the disposal of exacting people, even when they are only slightly indisposed, tend to drive the lodge doctor to the expedient of scamping his work in order to make an adequate income. The work suffers and in the long run the patients do not receive a full return for their small contributions. Greedy people try to hide their financial position, in order to guarantee for themselves and their relatives medical attendance in case of need without having to meet a relatively large liability. There is another grave disadvantage to lodge practice. The executive officers of the lodges are constantly seeking to swell the numbers of their members and to gain a controlling influence over their lodges. This means that there is a growing attempt on the part of the managers of the friendly societies, their orders and their lodges to wedge themselves in between the doctor and his patient. In all circumstances this is detrimental to the interests of both.

In these conditions, it has become necessary for the medical profession to establish a definite policy in regard to contract practice. If medical practitioners fix the conditions under which they are prepared to work, limit the extent of the concessions they are prepared to grant to persons of small means, and agree to uniformity in lodge practice, the disadvantages of this form of practice become materially lessened. In Australia it is practically impossible to ascertain the opinion of every medical practitioner in all districts concerning the many points of lodge practice. It is impossible for the medical profession to arrive at a common policy except through the offices of some representative body. The only organization within the medical profession that has any claim to call itself representative, is the British Medical Association. This organization has proved its utility to the medical profession throughout the Commonwealth by

providing machinery for the effective introduction of a well-considered policy. The British Medical Association comprises the overwhelming majority of the members of the medical profession in Australia. The majority of those who are not members, remain outside for excellent reasons. The standard of ethics of the Association is a high one. Those who are not prepared to conform to the rules, are removed from membership. As is the case with all large bodies of men, the administration of affairs has to be entrusted to a small circle of members elected by a democratic vote. Questions of policy are always decided by the members themselves at properly constituted meetings. The member residing in the most remote town in the back blocks, can arrange with his metropolitan colleagues to have his vote recorded by proxy. The majority determine the policy. This rule of democratic government is inviolable. The defeated minority must sink its opinions and accept the decision of the greater number. Once a policy is accepted duly and constitutionally, it becomes the duty of every member to abide by the decision. It may seem to some that their interests are likely to be damaged by the declared policy, if universally carried into effect. It still remains a matter of duty and of honour to bow to the judgement of the majority. In this way and in this way alone can the best interests of the medical profession as a whole be safeguarded. If any member differs in his opinion concerning the arrangements made with the friendly societies by the Councils of the Branches on the instructions of the majority of the members of the Branches, he has two courses open to him. He must either fall into line with the others, or he must give up lodge practice. Perhaps the latter course will leave him a happier man.

THE PRODUCTION OF TWINS.

Physiologists teach that twin foetuses are produced by the fertilization of two ova at the same time or by the development of two embryos from a single ovum. No attempt is made to explain the mechanism of plural pregnancies in human beings. It is recognized that the rule for human beings is that one embryo is developed at a time, just as in swine and many other animals the rule is for several embryos to be developed simultaneously. In cows and horses twin embryos occur not infrequently, but the foetuses are always derived from two separate ova. Newman and Patterson have recently extended our knowledge concerning the development of two or more

embryos from a single ovum. The subject of identical twins has long puzzled biologists. Why an ovum should be able to divide and from the primary or secondary divisions two or four embryos should develop, has not been satisfactorily explained. It is known that the first cleavage can be brought about artificially in the eggs of sea urchins by shaking. From each half a complete individual is formed. Newman and Patterson have observed a process of budding in the ova of armadillo. It appears that the process is a regular one and that four embryos are constantly formed from the four buds thrown out after fertilization. It has been suggested that in the human being budding occurs when two individuals are developed from a single ovum. One difficulty to be overcome in connexion with this theory is that in quadruple births it has been found that three of the foetuses are often enveloped in a single chorion. The budding process, like the primary cleavage process, involves the laying down of two, four or eight embryos. It has been claimed that the even number rule is not invariable in buds and that while two or four buds may be the commonest numbers in different animal species, three or five may occur as exceptional phenomena. It has to be recognized that the human being is uniparous, but that plural births occur at times. The well-known eugenicist, Mr. Charles B. Davenport, has investigated this problem with close attention, in the hope that the statistical method might illuminate the factors involved in the development of twins.¹ Twin births occur once in approximately one hundred births. It has, however, been shown by Leopold that between 5% and 10% of ovulations are double. The author finds that twin births occur in about 4.5% of the births occurring in the families of mothers who reveal a tendency to twin births. Further observation demonstrated that in each hundred births occurring in the families of the close relatives of men who are fathers of twins, twins appear 4.2 times. It is easy to imagine a transmissible trait in women of the production of twins. It is less obvious how such a characteristic could be handed on from the father. Mr. Davenport calls attention to another fact of significance. Of the twins born, three out of every four are true double twins and are developed each in a separate chorion. Unfortunately he has but a limited amount of information concerning the uniovular twins. From observations on the ovaries of swine, it appears that there is usually a larger number of *corpora lutea* than of embryos that continue to develop. The young embryos found *in utero* of the swine vary considerably in size. It is well known that blighted foetuses occur quite frequently in human beings. Mr. Davenport regards these facts as evidence of an extensive early mortality among human embryos. He explains the fact that ovulation takes place about five times as frequently as do twin births by assuming the death of the majority of the fertilized ova. The lethal factor appears to be derived either from the germ cell, or by the sperm cell or by both. This factor, he holds, behaves like other hereditary factors. It may influence the zygote at any stage of development or even after birth. He would ascribe the heavy mortality of young infants from marasmus

¹ Medical Record, March 27, 1920.

to this factor. To him the death at the second or fourth or sixth month, or at the time of birth or within the first two months of life, is brought about by a lack of developmental impulse. The individual is so weak that in spite of the utmost care and of the most favourable environment, it cannot support life.

He offers another explanation for the reduced number of twin births. Double ovulation does not necessarily imply double fertilization. One of the ova may resist fertilization on account of some physical circumstance or by mere chance. In these cases, only one embryo develops. He does not endeavour to attribute this failure to a special peculiarity of either the germ or the sperm cell. It thus appears that from the eugenic aspect, there is a logical explanation for the relative infrequency of twin births. Double ovulation seems to occur in a considerable proportion of women. A lethal factor is passed on either by the father or by the mother and this determines the death of one of the two embryos in about 80% of all cases. The occurrence of uniovular plural embryos requires further investigation. Mr. Davenport pleads for more careful observation on the part of obstetricians in regard to the number of chorions in the case of twins, in regard to the sex of the two infants and in regard to the presence of blighted fetuses. This information is of considerable value and should be recorded.

TRANSMISSION OF PNEUMONIA.

Recent investigations of the organisms producing pneumonia in association with other acute infections have been undertaken in the medical service of the United States Army,¹ with the object of determining the method of transmission of infection. In these researches blood cultures made from patients suffering from pneumonia resulted in the isolation of various organisms, notably, the type pneumococci, *Streptococcus viridans* and *Streptococcus hemolyticus*. It has been shown that not only are cases of acute lobar pneumonia frequently complicated by secondary infections, but that the pneumonia which arises in cases of measles, scarlet fever and influenza, is frequently due to the presence of secondary bacterial invasion, especially by the *Streptococcus hemolyticus*. It has been noted that pneumonia secondary to measles and influenza is particularly frequent in camps and under conditions of life peculiar to barracks or institutions.

Bacteriological examination of the throats of a large number of patients suffering from measles showed that 36% harboured the streptococcus. A considerable proportion of these patients subsequently developed pneumonia. Moreover, many individuals apparently healthy were found to be carriers of streptococci. The incidence of carriers was found to be considerably higher under conditions of life in the army than amongst the civil population.

Careful bacteriological examination undertaken with the object of determining the method of spread of infection by this organism has demonstrated that it is in many cases propagated by contagion with the sputum of patients or carriers. It was found that the water in which eating utensils were washed, was a

fruitful source for the spread of infection. Infection is also carried by contact with the hands, particularly in the case of carriers who are engaged in the handling of food. A study of the spread of infection by dust was carried out by examination of the air and floor dust from wards occupied by streptococcus carriers and cases of definite streptococcus infection. The height of the air intake from the floor was found to be the most important factor. Whereas streptococci were plentiful in air near the floor, these organisms were entirely absent in samples of air taken from a height of two feet and upwards. These questions are held to be of considerable practical importance in estimating the value of the wearing of masks for the prevention of infection in respiratory diseases. It has been shown that the contamination of eating utensils by washing water is the most important means of carrying infection from streptococcus carriers in the army. Infection is also spread by the contamination of food and other inanimate objects by the hands. Air-borne infection appears to be relatively unimportant. These investigations serve to emphasize the very great importance of thorough washing of all eating utensils for the prevention of the spread of respiratory diseases.

The use of boiling water or steam sterilization is necessary, because the washing of utensils in water that is merely warm may serve to contaminate rather than to cleanse. This matter is of very considerable practical importance in relation to the adequate every-day cleansing of eating utensils, especially in public eating-houses.

Inefficient washing may be calculated to play an important part in the spread of respiratory disease and is a factor to be taken into serious consideration in the presence of an epidemic, such as the recent pandemic influenza.

ORAL SEPSIS.

The subject of focal infections of the mouth in relation to systemic disease has attracted increased attention during the last decade. Ever since the days of William Hunter the relationship between oral sepsis and certain cases of hemolytic anemia has been recognized. In discussing the present status of oral sepsis in relation to disease Dr. James M. Anders² puts forward a plea for more accurate study and investigation. There exists at the present day too great a tendency to ascribe to oral sepsis almost "all the ills that flesh is heir to." An accurate knowledge of the part which infections of the teeth play with relation to systemic disease, is not possible without more exact investigation by the clinician, radiographer and bacteriologist. Closer co-operation between physician and dentist is urgently needed in order to settle many questions bearing upon the aetiological relationship of oral to systemic infection. As a result of modern research, a number of strains of streptococci, notably *Streptococcus hemolyticus*, *Streptococcus viridans*, and other virulent organisms have been isolated from cases of periapical abscess and similar infective processes about the tooth socket. It is, moreover, a matter of common clinical experience that removal of foci of sepsis is of the first importance in approaching

¹ The Military Surgeon, April, 1920.

² New York Medical Journal, April, 1920.

the treatment of many grave constitutional disorders, such as exophthalmic goitre and many forms of infective arthritis.

On the other hand, it is most important to bear in mind that multiple foci of infection often exist in various organs of the body, any one of which may be responsible for the general clinical features of chronic septic absorption. Before incriminating the teeth, it is necessary to eliminate as far as may be possible all foci elsewhere, particularly the tonsils and accessory nasal sinuses, as well as infections of the urinary tract and inflammatory diseases of the pelvic organs. In the absence of definite bacteriological evidence, extreme care should be taken before ascribing any particular general infection or any process of chronic septic absorption to the oral cavity. Considerable experience is necessary in correctly interpreting the photographic findings in relation to dental and all other branches of skiagraphy. The widespread popular use of radiography which has recently become so conspicuous a feature in advertisements appearing in the daily press, cannot be regarded as invariably founded on a scientific basis. Until closer co-operation exists between physician and dentist it is probable that many teeth may be sacrificed needlessly. While not endeavouring to minimize the importance of oral sepsis in relation to disease, our concept of its relation to individual constitutional diseases should be founded on a firm pathological basis. At the present time the attitude of many members of the medical profession savours too much of empiricism in this regard.

THE SIGNIFICANCE OF BLOOD PLATELETS.

The determination of the number of blood platelets in each cubic millimetre of blood is not frequently carried out for clinical uses, largely, no doubt, on account of the somewhat unsatisfactory methods of enumeration. The difficulties involved in the estimations, however, are not as real as is believed and with a little practice, they can be overcome. Many of the methods, especially those by direct count, yield a high error. Dr. H. C. Gram, of Copenhagen, has used Oluf Thomsen's method and finds that it is reliable and not complicated.¹ From the records of his observations, it would appear that the experimental error is lower than that attaching to the methods in more common use. Thomsen's method is carried out as follows. A measured 4.5 c.cm. of blood is allowed to run into 0.5 c.cm. of sodium citrate solution in a centrifuge tube and spun. After standing for about an hour, the supernatant fluid is turbid from leucocytes and platelets. The fluid is drawn off and mixed with 0.9% sodium chloride solution and 0.2% formaldehyde solution. Brilliant cresyl is added to stain the platelets. The dilution of the supernatant fluid is 5%. The platelets are counted in a Thoma's hæmacytometer cell. As a result of a large number of counts, the author found that normally each cubic millimetre of blood contains from 200,000 to 500,000 platelets. Dr. Gram is doubtful whether anything below 300,000 should be regarded as strictly normal. He proceeded to estimate the number of platelets in various blood and other dis-

eases. He has determined a definite diminution in the number, often extreme, in pernicious anaemia, in lymphatic leukaemia and in some cases of myeloid leukaemia. On the other hand, he obtained normal values in hæmophilia and increased values in simple anæmias and in a few cases of myeloid leukaemia. The bleeding time, that is the length of time a needle prick through 2 mm. of skin continues to bleed, is increased from the normal when the number of platelets is less than 100,000 per cubic millimetre. Dr. Gram suggests that the estimation of the number of platelets and the determination of the bleeding time is of practical importance as a pre-operative measure, especially in the presence of an aplastic anæmia. An exploratory operation is frequently needed on account of a suspected cancer in these circumstances.

POST-GRADUATE COURSES IN VICTORIA.

The Council of the Victorian Branch of the British Medical Association has recently taken steps to place post-graduate training in Victoria on a satisfactory basis. A permanent post-graduate committee of the Branch Council was appointed a short time ago and this committee has recently formed a small sub-committee to draw up a syllabus of work, lectures, demonstrations, etc., and to submit the syllabus to the next meeting of the full committee. The co-operation of the Faculty of Medicine of the University of Melbourne and of the members of the honorary staff of the teaching hospitals was sought and readily obtained.

The personnel of the Permanent Post-Graduate Committee is as follows:—

- Dr. A. V. M. Anderson, Chairman, representing Victorian Branch.
- Dr. J. W. Dunbar Hooper, Honorary Secretary, Victorian Branch.
- Dr. J. H. Anderson, Faculty of Medicine.
- Dr. S. W. Patterson, Walter and Eliza Hall Institute of Medical Research.
- Dr. Fay Maclure, Alfred Hospital.
- Dr. H. W. Stephens, Children's Hospital.
- Dr. W. F. Orr, Eye and Ear Hospital.
- Dr. Alan Newton, Melbourne Hospital.
- Dr. A. E. Rowden White, St. Vincent's Hospital.
- Dr. R. H. Morrison, Women's Hospital.

It has been tentatively arranged that a post-graduate course shall take place in November, 1920. The ultimate objective of the committee is to insure that post-graduate classes shall be held at regular intervals in order that the members of the profession in active practice may receive instruction in the more recent developments of medical science.

TO OUR READERS.

We are compelled to seek the indulgence of the readers of "The Medical Journal of Australia" on account of the impossibility of reproducing skiagrams and other fine illustrations satisfactorily as long as the condition of the paper market remains unfavourable. Before the war good paper was obtainable at a low price and in unlimited quantities. During the war the supply became restricted and the price rose over 100%. Since the cessation of hostilities, the price of the paper on which this journal was printed in 1914 has risen nearly 330%. We are therefore compelled to use an inferior quality paper on which good impressions of fine illustrations cannot be obtained. This has been particularly noticeable in the pictures illustrating the articles of Dr. J. G. Edwards and Dr. W. McMurray in the issue of June 5, 1920, and of Dr. Idris Morgan in the issue of June 12. The impressions obtained on good paper from the blocks employed were excellent, thanks to the skill exercised and care taken by our block makers, Messrs. Hartland & Hyde, of Sydney. As soon as it again becomes possible to procure good paper at a reasonable cost, we can promise better results.

¹ Archives of Internal Medicine, March 15, 1920.

Abstracts from Current Medical Literature.

OPHTHALMOLOGY.

(214) The Maddox Rod. Screen Test.

In view of the wide use of the Maddox rod as a test for heterophoria and the criticisms that have been made concerning its accuracy, Pere Dolman has carried out a research on the subject and created a modification of the test (*Archives of Ophthalmol.*, September, 1919). The chief defects complained of were: (1) excessive esophoria. This was shown to be present most frequently in cases of hypermetropia and could be artificially produced by placing a minus glass in front of the uncovered eye; the concave glass behind the Maddox rod did not affect the position of the red line. In many cases the excessive esophoria was due to faulty projection of the red line nearer than the light. (2) The tendency to fuse the light and red line. This tendency is increased by the exclusion of extraneous retinal images, by the presence of horizontal and vertical lines in the background, by additional sources of light and by the intensity of the point of light. (3) The instability of the line. This was prevented by instructing the observer to concentrate his attention on the light and to disregard the image of the line. (4) The inability to see the line. This was caused by the following factors: malposition of the rod, bright illumination of the room, dimness of the spot of light, other sources of light, poor vision in one eye, habitual suppression of one image, poor vision in both eyes. The author's modification consists in holding a screen in front of the eye with the Maddox rod and removing it for a second or two from time to time, the patient being instructed to keep his attention on the light. Behind the Maddox rod is a double Risley rotatory prism which the patient is instructed to turn until the line assumes the position of orthophoria. If the rotatory prism is set at the start 4 or 5 contrads off the zero mark, it will expose anyone who has been coached to say that the line passes through the light.

(215) Ocular Phenomena in Psycho-Neuroses of Warfare.

G. E. de Schweinitz deals with the functional group, psycho-neurosis, war shock and hysteria (*Archives of Ophthalmol.*, September, 1919). For convenience sake the conditions may be considered in several groups: (1) Amblyopia amaurosis, achromatopsia and dichromatopsia. The knowledge of a refractive error may readily furnish the suggestion which determines the symptoms of reduced visual acuity. Sometimes the patient complains that the vision is smoky or foggy, or the suggestion may take the form of complete blindness; associated it may be with tonic blepharospasm. The author found the amaurosis more

usually bilateral. In spite of his blindness the patient's orientation is usually perfect; he does not hurt himself. This, however, is not always the case. Care must be taken to exclude organic disease in the fundus. As suggestion produces, so it will cure the condition. Visual field phenomena. Various fields are described, concentrically contracted, tubular field, reversed colour field (the red being more peripheral than blue) and the spiral field, but in the author's opinion too great attention has been paid to these so-called characteristic fields in hysteria. It is very difficult to eliminate the potent influence of suggestion. An interesting case of complete temporary loss of colour sense is reported, as an "anxiety reaction," the patient subconsciously adopting such means to escape from the intolerable situation. (2) Asthenoplas and anomalies of accommodation. Weak accommodation and spasm of ciliary muscles producing myopia were often observed. (3) Anomalies of the iris movements. Sluggish response to light was frequently noted, but other conditions, such as unequal pupils and Argyll-Robertson reaction, had some physical basis for their development. (4) Anomalies of the eyelid and exterior eye-muscle movements included extreme convergence in association with spasm of accommodation, nystagmoid movements and, commonest of all, blepharospasm. (5) Exophthalmus was also noted.

(216) Radical Cure of Gonorrhoeal Iritis.

S. H. Browning believes that if the gonorrhoea is properly treated there would be no gonorrhoeal iritis and certainly no recurrence (*British Journ. of Ophthalmol.*, March, 1920). The iritis is toxic in origin, as in only one isolated case has the gonococcus been isolated from the eye. The diagnosis is suggested by the following points: (i.) A history of gonorrhoea some years previously; iritis during an acute urethritis has not been seen by the author; (ii.) the specific reaction to gonococcus vaccines; (iii.) association with gonorrhoeal rheumatism—not invariably the case; (iv.) the recurrence of iritis, or exacerbation after prostatic and vesicular massage; (v.) negative evidence, i.e., the elimination of other sources of infection, such as pyorrhoea and septic foci. Preventive treatment consists in the complete cure of the original urethritis, where the prostate and vesicles after massage and expression have been proved to be free from infection. All cases should be treated with vaccines, as, although they do not materially shorten the acute stage, they prevent to a large extent complications and sequelae. The radical treatment of the iritis is as follows: (1) Immediate treatment by the ophthalmic surgeon. (2) Immediate treatment by vaccines, autogenous, if possible. (3) The cure of the accompanying prostatitis and vesiculitis by massage, by an expert. The urine passed after massage is examined for pus, gonococci or other organisms. The iritis is cured when

the urine after massage repeatedly gives a normal deposit. The author has not yet seen a case of gonorrhoeal iritis in a female.

(217) Dacryocystitis.

W. L. Benedict and R. A. Barlow point out that suppuration of the tear sac is sometimes associated with ethmoidal suppuration and in these cases excision of the sac does not effect a cure (*American Journ. of Ophthalmol.*, December, 1919). However good excision may be, it is still better to retain the function of the sac and hence a surgical opening into the nose is preferable. Cocaine is instilled into the eye and the nasal cavity is also anesthetized. A lachrymal probe is passed along the dilated punctum and as far down the nasal duct as it will go. The direction of the probe is a guide to the nasal procedure. A flap of mucous membrane 1 cm. in diameter is removed just in front of the middle turbinate. The bone is next removed by means of a chisel, the lachrymal sac and duct being exposed. The probe is then slightly withdrawn until the tip causes a tenting of the sac wall into the bony opening. This membrane is then removed with knife and forceps. The probe is removed and the sac irrigated through the punctum. Little after treatment is required.

(218) Coloboma and Congenital Dislocation of the Lens.

C. F. Clark has seen eleven cases of coloboma and congenital dislocation of the lens during 35 years; eight had coloboma and four dislocation, one patient having both anomalies (*Archives of Ophthalmol.*, September, 1919). In no case was there present coloboma of the iris or choroid. The author regards as inadequate the text-book theory of the imperfect closure of the foetal cleft which is reiterated by successive writers without proof. In these cases the refraction changes slowly; in one case the myopic astigmatism increased 2.5 D. in 18 years. The change is due to the release from the pressure of the suspensory ligament and to the tilting of the lens. Seven of these patients belonged to two generations of a family and probably an earlier generation was also affected. The degree of accommodative power retained in spite of the absence of portion of the suspensory ligament was remarkable and so was the comfort and vision obtained by accurate correction. In some of the cases cataracts appeared, generally late in life.

(219) Tumour of Orbit Healed by Radium.

G. H. Bell and S. Tousey describe a case of large non-operable tumour of the orbit and brow cured by radium (*Archives Ophthalmol.*, November, 1919). The patient was 65 years of age. There was a solid tumour filling the orbit extending on to the frontal bone. The cornea had ulcerated and perforated and projected between the eyelids. Applications were made of 20 mgr. of radium salt of two million activity. The radium was left in one place for an

hour. Six places were selected, 3.75 cm. apart. In four months the patient was cured. The shrunken globe was removed and a glass eye inserted. The authors advocate the employment of radium more largely in all ocular and pericocular tumours and in vernal catarrh.

(220) "Hole in the Hand."

A. Cantonnet describes a rather amusing phenomenon by the title "hole in the hand" (*Med. Press*, October 23, 1918). If a cardboard tube or roll of paper is held before one eye, the right, for example, and the left hand is placed open about 25 cm. before the open left eye, the right eye will see an object through the lumen of the tube, while the left eye sees only the hand. The images are fused in the brain and the impression is obtained that the hand has a hole in it, through which the object looked at by the right eye is seen. This may be used as a test for binocular vision and for heterophoria.

LARYNGOLOGY AND OTOTOLOGY.

(221) Non-Surgical Treatment of Enlarged Tonsils.

Irwin Moore (*Journ. Laryng., Rhin., Otolaryng.*, October, 1919) enumerates the conditions in which surgical procedures are contra-indicated. These are: I. Local.—(1) Acute tonsillitis—due to the streptococcus, scarlet fever, measles, diphtheria, or in association with rheumatic fever, ulceromembranous tonsillitis (Vincent's angina). (2) Physiological enlargement of temporary character accompanying the four periods of dentition. (3) Professional voice-users. II. General.—(1) Cardiac diseases, e.g., endocarditis and pericarditis in association with or following tonsillitis. (2) Advanced cardio-vascular changes, i.e., in individuals who have a tendency to hæmorrhages and whose condition would be endangered by any kind of surgical procedure. (a) In constitutional diseases where anaemia is very marked, e.g., in chlorosis, pernicious anaemia, leukaemia and Hodgkin's disease. (b) Where there is low coagulating power of the blood, e.g., in true hæmophilia, cholæmias, purpuric diseases, etc. (c) Where the systolic blood pressure is over 225 mm. (d) In arterio-sclerosis. (3) Advanced tuberculosis. (4) Syphilis, especially those cases with ulcerative processes. (5) Kidney diseases, e.g., Bright's disease. (6) Advanced cases of diabetes mellitus in association with acute follicular tonsillitis. (7) Grave nerve or mental disease in which marked excitation is present, e.g., chorea, exophthalmic goitre, the maniacal state, etc. (8) Enlargement of the thymus gland, either alone or associated with the *status lymphaticus*. The non-surgical methods employed for the reduction or destruction of enlarged or diseased tonsils are referred to. A. Organo-therapy.—Hugh Ashby advocates the exhibition of lymphoid gland extract in three daily doses of 0.3 grm. to children with enlarged tonsils, on the assumption that the enlargement is an attempt to supply the deficiency in the other lymphoid

tissue of the body. B. Chemical.—(1) Absorbents, e.g., iodine preparations. They have little effect in resolving the hypertrophy. (2) Mineral astringents, e.g., powdered alum or tannic acid, glycerine of tannin, zinc sulphate (1.04 to 2.08 grm. to 100 c.cm.), copper sulphate (1.04 grm. to 100 c.cm.). They help to limit the inflammation, but do not reduce the gland structure. (3) Caustics or escharotics. (a) Mineral astringents (mildly caustic), e.g., silver nitrate in varying strengths (2% to 4%), or the fused salt on a probe applied to the surface of the tonsil or into the crypts. Goodale gives eight to ten interstitial injections of a 4% to 8% solution at intervals of four days. Perchloride of iron (1 in 4 or 8 of water or glycerine) painted over the tonsils once or twice daily. Zinc chloride. (b) Mineral acid caustics, e.g., nitric, hydrochloric, lactic, trichloroacetic and chromic acids, all cause marked inflammatory reaction, difficult to limit. (c) Alkaline caustics, e.g., caustic potash and soda, reduce the size of any diseased mass by a piece-meal process of disintegration. Vienna paste (caustic potash, 5 parts, slaked lime, 6 parts, and rectified spirit sufficient to make a mass) was used successfully by Fournie and London paste (equal parts of caustic soda and hydrated lime mixed with a little alcohol) by Morell MacKenzie. The latter is the more valuable therapeutic agent. The tonsil may be cocaineized and the paste applied for a few seconds in an oval saucer-shaped receptacle attached to a handle (Irwin Moore's escharotic applicator). It should be re-applied after an interval of three or four days and repeated up to eight times. It may be used in very young children. C. Electrical.—(1) Electrolysis—now obsolete. (2) Galvano-cautery or galvanopuncture is especially of service in adults with hard fibrous tonsils. The punctures should be made by means of a pointed platinum electrode passed between the crypts and not directly into them. It should be held there a few minutes and then withdrawn and reinserted in another portion of the tonsil, five or six punctures being made at a sitting. A dull-red heat is indispensable so as to avoid producing hæmorrhage. (3) Röntgen rays. W. Stewart found these rays to be useful in diminishing the size of tonsils and adenoids, two or three doses giving relief to the symptoms. He passed the rays laterally in front of the vertebral and post-pharyngeal wall. (4) Diathermic puncture has been used with satisfactory results.

(222) Atrophic Rhinitis.

Assuming that atrophic rhinitis is actually due to the action of bacterial ferments and that the substrate on which the ferments are acting is extracorporeal and capable of alteration in composition and reaction by direct application from the exterior, T. H. C. Benlans and Chas. H. Hayton (*Journ. Laryng., Rhin., Otolaryng.*, September, 1919) describe a form of treatment directed primarily against the factor of the disease. The factor is generally regarded as arising from bacterial de-

composition, i.e., that it is due to the end products of tryptic fermentation. This process requires a tryptic ferment, a protein substrate and a slight degree of alkalinity of the substrate. The fermentation may be combated by (i.) attacking the ferment by disinfectant treatment—a difficult matter, (ii.) altering the constitution of the substrate by replacing the protein by some other body, or (iii.) rendering the reaction of the substrate acid. The authors have attempted to combine the second and third alternatives, leaving the first to follow as a natural sequence. Their method consists in attempting to encourage the growth of glycoliphilic bacteria in the nose by supplying to the site of infection media of a carbohydrate type, such as glucose and glycerine, the fermentation of which by bacteria already present and able to make use of it, leads to the production of various organic acids in the substrate which are inimical to the existence of the bacillus of Perez, which is, in the authors' opinion, the cause of the factor. Pure glycerine with the addition of 25% liquid glucose is applied several times (four or five times at first) daily on a cotton-wool applicator over the whole of the nasal cavity. The patient can carry out this treatment at home after having been shown the method by the surgeon. The treatment is persisted in and encouraging results are claimed by the authors.

(223) Maxillary Antral Disease.

W. S. Syme (*Journ. Laryng., Rhin., Otolaryng.*, December, 1919) has investigated 878 cases of maxillary antral disease, in 599 of which both antra were affected. He considers proof-puncture the most reliable method of diagnosis. Transillumination and X-ray examination proved unreliable. In his cases operation was not, as a rule, advised until after lavage had been used on several occasions. At times a single lavage effected an apparent cure. Latent sinusitis he found much more common than patent sinusitis. The most frequent complaint was post-nasal discharge. The cure of an antral condition in an asthmatic patient often has a most beneficial effect on the asthma, which is probably of toxic origin. Syme used local anaesthesia in 306 of 396 cases operated upon. Even with general anaesthesia he injected 1.2 c.cm. of 10% solution of cocaine, with adrenalin, into the cavity through the cannula and spread it over it with the gentle use of the air bag. He states that it greatly added to the comfort of the operator. He preferred local anaesthesia. Syme used an almost vertical incision through the mucosa of the canine fossa, whereby he could readily obliterate the anterior antral angle. He turned a flap of mucous membrane from the inferior meatus into the cavity over the rough bone in the floor between the antrum and the nasal cavity, to prevent the growth of granulations there and to preserve the patency of the opening. The character of the "wash-out" is no criterion of the severity of the changes in the cavity.

British Medical Association News.

SCIENTIFIC

A meeting of the Queensland Branch was held on May 7, 1920, at the B.M.A. Rooms, Adelaide Street, Brisbane, Sir David Hardie, the President, in the chair.

Dr. J. Lockhart Gibson showed a patient from the anterior of chamber of whose eye he had removed a splinter of wood. The account of this case will be found on page 577.

Dr. A. V. Meehan showed a patient who was wearing a pelvic tilting table after disarticulation at the hip. The weight was carried on the *tuber ischii*. He claimed that disarticulation of the hip was better than amputation with a short stump and a stiff hip-joint.

He also showed a patient who had undergone amputation through the thigh. The weight was borne on the *tuber ischii* and not on the stump.

Dr. Meehan's third patient had had amputation performed below the knee. The weight was carried on the *ligamentum patellae* and on the internal condyle of the tibia. A thigh corset was used to steady the leg.

Dr. J. A. Cameron exhibited a specimen of vesical calculus removed from a man aged 80 years. He also read notes of a case of urethral stricture treated by Hamilton Russell's operation.

Dr. R. Graham Brown showed a radiogram of an aneurysm of the arch of the aorta. The patient had complained of dyspnoea when he swallowed meat. Laryngoscopic examination had failed to reveal any abnormal signs.

Dr. Eustace Russell said that he had examined a woman aged 44 who was suffering from aneurysm. She was a hard worker. There was no history of any specific disease. She had three healthy children and had had no miscarriages. The blood pressure was increased and was higher on the right than on the left side. The second cardiac sound at all the orifices was accentuated. There was no dulness on percussion. In fact, the physical signs were negative. He had had no opportunity to have the blood serum tested for the Wassermann reaction.

Dr. J. Lockhart Gibson said that radiography was the only means of diagnosing aneurysms of the third part of the arch of the aorta, as physical signs were usually absent.

Dr. W. N. Robertson referred to the case of a young man with paralysis of the vocal cords. On X-ray examination an aneurysm was discovered. He refused to take rest and died 14 days later.

Dr. A. V. Meehan read a paper on "War Amputations of the Lower Limb" (see page 571).

Dr. W. N. Robertson congratulated Dr. Meehan on his paper. When he was chairman of the committee of the State War Council, he did not think that the men got a fair chance because no one appeared to understand the subject properly. Dr. Meehan's work at the Rosemount Hospital was highly creditable.

Dr. D. A. Cameron described the chaotic state of affairs which obtained at Harefield in 1915 in regard to the treatment of patients with war injuries to the two limbs.

Dr. G. P. Dixon, O.B.E., asked Dr. Meehan if he had any experience of the cineplastic method. He also desired to know if he had used Sabanejeff's method in injuries to the knee.

Dr. A. Graham Butler, D.S.O., spoke of the endeavours of Surgeon-General Sir Neville Howse to place the subject of artificial limbs on a sound administrative basis in 1918. He succeeded in obtaining the best limbs possible for all patients and did not allow any distinctions to be drawn between officers and men. He asked Dr. Meehan whether any results had been published concerning the production of a standardized artificial limb which had proved satisfactory.

Dr. Meehan, in reply, thanked the members for the way in which they had received his paper. He had only seen one case in which cinematization had been applied. The majority of this work had been done in Italy. He had not seen a case of Sabanejeff's amputation. The method had not impressed him. He held that the Stokes-Gritti method yielded a solid, end-bearing stump and gave good results.

Standardized artificial limbs were being produced in Australia. The bucket was made for each individual, while the

rest of the artificial limb was standardized. In thigh amputations a knee lock was necessary for flexion. He described the attempts that had been made to obtain a light yet serviceable lock.

Dr. J. V. Duhig read a paper on "Vincent's Disease" (see page 575).

Dr. W. N. Robertson was surprised to hear that Vincent's angina had been so common in France. In his experience, it was somewhat rare in Brisbane. The condition soon cleared up under local applications of arsenic and ipecachuana.

Dr. R. Graham Brown stated that he had seen cases in which the infection involved the tonsil opposite to that described by Dr. Duhig. He had had good results from the application of a 5% spirituous solution of guaiacol.

Dr. G. P. Dixon said that in Egypt there were many cases of infection with Vincent's organism chiefly involving the gums. The tonsils were usually not affected. These cases yielded readily to arsenic.

Sir David Hardie stated that in his experience there was a membranous patch on the uvula opposite the affected tonsil unlike the condition seen in diphtheria. In all his patients there was fever from the beginning. He could not understand how such extensive ulceration as that described by Dr. Duhig, could exist without producing a rise in temperature.

In his reply, Dr. Duhig thought that Vincent's disease would be found to be more common in Australia, as a result of demobilization. In his description he did not mean to convey the idea that the disease was strictly limited to the right side. The rest of the throat usually participated in the infection. Gingivitis was also very common. Vincent's disease of the fauces and of the tonsil was a widely spread affection and seemed to occur in waves. He maintained that a raised temperature was most uncommon in the early stages; it occurred later as a result of secondary infections.

MEDICO-POLITICAL.

At a meeting of the Queensland Branch held on May 7, 1920, it was resolved that the suggestion put forward by the Federal Committee that the constitution of the Committee be altered to enable it to defray the travelling and personal expenses of members attending the meetings, be approved.

The undermentioned have been nominated for election as members of the New South Wales Branch:—

David Shields Prentice, Esq., M.B., B.A.O. (Univ. Dublin), 1918, H.M.A.S. *Tingara*, Rose Bay.

Leon Dallas Mercer, Esq., M.B., Ch.M. (Univ. Sydney), 1918, "Wendouree," Derby Street, Epping.

The undermentioned have been elected members of the Victorian Branch:—

Dougan Bird, Esq., M.B. et Ch.B., Univ. Melb., 1911, M.R.C.S., Eng., L.R.C.P., Lond., 1912, 41 Spring Street, Melbourne.

Edward Thomas Brennan, Esq., M.B. et Ch.B., Melb., 1909, 38 Ormond Road, Elwood.

Louis Pierre Urbain Crevelli, Esq., M.B. et Ch.B., Melb., 1913, Albert Park.

The undermentioned have been elected members of the Queensland Branch:—

Arthur Frederick Cephas Day, Esq., M.B. et Ch.B., Melb., 1918, Muttaborra, North Queensland.

Louis Michael Pigott, Esq., M.B., Univ. Sydney, 1914, Glendalough, Toowoomba.

Medical Societies.

THE SURGICAL ASSOCIATION OF MELBOURNE.

The members of the surgical staffs of the Melbourne Hospital, the Alfred Hospital and the St. Vincent's Hospital met

on March 19 and April 26, 1920, for the purpose of discussing the proposal to form a surgical society. It was resolved at these meetings that a society to be called the Surgical Association of Melbourne be formed. The objects of the Association are:—

- (i.) The advancement of the science and art of surgery;
- (ii.) to afford opportunity for free ventilation and discussion of divergent views on surgical subjects;
- (iii.) to promote friendly relationship and community of opinion amongst the surgeons of the general hospitals.

The constitution provides that the membership of the Association shall be limited to fifty members. The following are eligible for membership: (i.) Any surgeon holding an appointment on the active staff of one of the three general hospitals of Melbourne. (ii.) The consulting surgeons of these hospitals. (iii.) Any surgeon in active practice in Victoria of acknowledged high repute as a surgeon. The Association may appoint as an honorary member any distinguished member of the medical profession recommended by the Council for election.

It is proposed to hold five meetings each year. Any member who is absent from three consecutive meetings, shall, *ipso facto*, cease to be a member of the Association. The member concerned, however, may offer an explanation for the consideration of the Council and it shall be competent to the Council to determine whether this rule shall be enforced.

Papers contributed by members of the Association shall be the property of the members concerned. Reports of the discussions are not to be published. It is felt that this rule will result in a greater freedom of discussion.

The idea of the formation of this Society has originated in the institution of the Association of Surgeons of Great Britain and Ireland, an association having similar objects in view. It is felt that the Surgical Association of Melbourne will be of great use. It will afford opportunity for the free interchange of views concerning the different methods employed by surgeons engaged in similar work. As a result, the standard of surgical practice and of the teaching of surgery should be raised without in any way checking the development of the individuality of the work carried out by any one surgeon or group of surgeons.

The following were elected office-bearers for the ensuing year:—

President: Mr. Fred D. Bird.

Vice-Presidents: Mr. R. Hamilton Russell, Mr. G. A. Syme.

Members of Committee: Mr. F. H. Langlands and Mr. Alan Newton, Melbourne Hospital; Mr. Balcombe Quick and Mr. Fay Maclure, Alfred Hospital; Mr. H. B. Devine and Mr. C. Gordon Shaw, D.S.O., St. Vincent's Hospital.

Honorary Treasurer: Mr. D. Murray Morton.

Honorary Secretary: Mr. T. E. Victor Hurley, C.M.G..

The inaugural meeting of the Association will be held at the Alfred Hospital on June 24, 1920, when Mr. Hamilton Russell will open a discussion on the treatment of fractures.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A meeting of the Senate of the University of Sydney was held on June 7, 1920, at University Chambers, Phillip Street, Sydney.

A letter was received from Lady Anderson Stuart, offering to present to the University certain pictures of celebrated medical men and books of medical notes and other possessions of the late Sir Thomas Anderson Stuart, together with a bookcase to hold the books. It was resolved that the offer be accepted with thanks and that a letter be sent to Lady Anderson Stuart.

A letter was received from Professor Wilson, notifying his appointment to the Chair of Anatomy at Cambridge, and resigning the Challis Chair of Anatomy from December 31, 1920. It was unanimously resolved that the resignation be accepted with regret. It was further unanimously resolved that the Senate cordially congratulates Professor Wilson on

the high honour that his attainments as anatomist have earned for himself and reflected on the University of Sydney by his appointment to the Regius Professorship of Anatomy in the University of Cambridge. It desires to place on record its warm recognition of his long and valuable services to the community and University as a whole, as well as to his own department and school, its regret that it is to lose the benefit of his ability and influence and its hopes that he may have all success and happiness in the new career on which he is about to enter. That a copy of this resolution be sent to Professor Wilson.

The following appointments were made:—

Demonstrators in Anatomy: Mr. C. E. Wassell, M.B., Ch.M., and Mr. E. M. Fisher, M.B., Ch.M.

Demonstrator in Geology: Dorothy A. Toone, B.Sc..

The Senate then proceeded to the further consideration of the Professorial Board in regard to the McCaughey Bequest. The report was adopted, in part, as follows:—

The Board has the honour to recommend the following:—

The establishment of a Research Fund	£1,000	0	0
Additional annual grant for the Library	1,000	0	0
Additional annual grant for Administration	1,000	0	0
	£3,000	0	0

Faculty of Arts.—The discontinuance of the existing Chair of Modern Literature and the substitution of (a) to (f):—

(a) A Chair of English Literature (£1,100, plus Pension Fund)—Estimated additional cost £80 0 0

(b) A Chair of English Language (£1,100, plus Pension Fund)—Estimated additional cost 480 0 0

(c) A Chair of French (£1,100, plus Pension Fund)—Estimated additional cost 610 0 0

(d) An additional Lecturer in French — Estimated additional cost 350 0 0

(e) Tutors in French (natives of France) — Estimated additional cost 200 0 0

(f) An Associate-Professorship of Psychology at £900—Estimated additional cost 340 0 0

(h) An Evening Lecturer in Philosophy and Assistant in Psychological Laboratory at £350 — Estimated additional cost 200 0 0

(i) Tutorship in History—Estimated additional cost 200 0 0

Total for Faculty of Arts £2,460 0 0

Faculty of Law.—The Board suggests that any increased requirements of this Faculty might be met from other funds.

Faculty of Medicine.—

A Chair of Surgery—£1,100—on the same terms as the Chair of Medicine—Estimated additional cost 650 0 0

Additional Teaching in Psychiatry 400 0 0

Total for Faculty of Medicine 1,050 0 0

The Board anticipates that additional expenditure will be necessary in filling the Chair of Physiology, and that this will come from the fees of the Department.

Faculty of Science.—

A Chair of Electrical Engineering (£1,100, plus Pension Fund)—Estimated additional cost	£680	0	0
Lectureship in Geography—Estimated additional cost	488	0	0
Additional Lecturers in Civil Engineering—Estimated additional cost	200	0	0
Total for Faculty of Science	1,368	0	0
Chair of Dentistry.—On the same terms as the Chairs of Medicine and Surgery	1,100	0	0
Total Annual Expenditure	£8,978	0	0

Congress Notes.

The date of the Australasian Medical Congress is August 23-28, 1920.

The official address of the Congress is: The Honorary Secretary, 11th Session, Australasian Medical Congress, B.M.A. Building, Adelaide Street, Brisbane.

The following are the Local Secretaries in the several States:—

New South Wales: Dr. F. Brown Craig, Macquarie Street, Sydney.

Victoria: Dr. A. Leo Kenny, Collins Street, Melbourne.

South Australia: Dr. F. S. Hone, North Terrace, Adelaide.

Western Australia: Dr. W. Trethowan, 267 St. George's Terrace, Perth.

Tasmania: Dr. E. Brettingham Moore, Macquarie Street, Hobart.

New Zealand: Dr. C. E. A. Coldicutt, 82 Simonds Street, Auckland.

Queensland: The Honorary General Secretary and the Coadjutor Secretary, c/o. Queensland Branch, British Medical Association, Adelaide Street, Brisbane.

The following is a list of the Honorary Secretaries of the Sections:—

(i.) **Medicine:** Dr. Andrew Stewart, Wickham Terrace, Brisbane.

(ii.) **Surgery:** Dr. Donald A. Cameron, Wickham Terrace, Brisbane.

(iii.) **Obstetrics and Gynaecology:** Dr. Lillian V. Cooper, George Street, Brisbane.

(iv.) **Pathology and Bacteriology:** (In place of Dr. A. W. Dean) D. J. V. Duhig, Wickham Terrace, Brisbane, and Dr. A. Breinl, Institute of Tropical Medicine, Townsville.

(v.) **Public Health:** Dr. J. S. C. Elkington, Federal Quarantine Department, Brisbane.

(vi.) **Ophthalmology:** Dr. J. Lockhart Gibson, Wickham Terrace, Brisbane.

(vii.) **Otology, Rhinology and Laryngology:** Dr. W. N. Robertson, Wickham Terrace, Brisbane.

(viii.) **Diseases of Children:** Dr. A. Jefferis Turner, Wickham Terrace, Brisbane.

(ix.) **Naval and Military Medicine and Surgery:** Dr. G. P. Dixon, C.B.E., Wickham Terrace, Brisbane.

(x.) **Neurology and Psychological Medicine:** Dr. T. H. R. Mathewson, Brunswick Street, New Farm, Brisbane, and Dr. J. R. Nicoll, Hospital for Insane, Toowoomba.

(xi.) **Dermatology and Radiology:** Dr. V. McDowall, Preston House, Queen Street, Brisbane.

Members are particularly requested to announce their intention to read papers to the Sectional Secretaries concerned and not to the State Secretaries. The papers should also be forwarded to the Sectional Secretaries.

Accommodation.

We are informed that several members of the Congress have secured rooms in Brisbane either directly or through friends, without notifying the Local Secretary of the Congress in the State in which they reside or the General Secre-

tary. In order to avoid the embarrassment arising in these circumstances, members are requested to secure the accommodation they require through the State Secretary or to notify him if other arrangements are made.

Membership.

According to the Standing Orders, medical students are not eligible for membership of the Congress. The Executive Committee, however, has decided that if an application be made by medical students desiring to attend the Congress to the Local Secretary in the State in which they reside, they will be granted permission to attend the meetings. They will not be allowed to take part in the discussions or to vote.

The Future of Congress.

The ballot papers to be used in the determination of the future of the Congress will shortly be forwarded to the Secretaries in the several States for distribution to members of the Congress.

Enrolment.

Up to the present time the number of members who have joined from the various Australian States are as follows. There is no official return available in regard to the New Zealand members.

Queensland	92
New South Wales	50
Victoria	49
South Australia	13
Western Australia	8
Tasmania	7

Section of Ophthalmology.

The Honorary Secretary of the Section of Ophthalmology announces that the following subjects have been selected for special discussion in the Section:—

- (i.) Iritis.
- (ii.) The Necessary Visual Standard for Soldiers.
- (iii.) Papilloedema with Reference to Treatment (combined with the Sections of Medicine and of Urology).

Section of Otology and Laryngology.

The Honorary Secretary of the Section of Otology and Laryngology announces that the following subjects have been selected for special discussion in the Section:—

- (i.) Tuberculosis of the Larynx.
- (ii.) Sinus Disease in Relation to the Eye (combined with the Section of Ophthalmology).

Obituary.**ROBERT BEVERIDGE HUXTABLE.**

The tragedy of the war did not end with the armistice. For many there were sorrows and periods of anxious waiting, a sudden check to the joyful anticipation of the return of a brave soldier by dismaying news. As time went by, the deadly scythe of war found fewer victims and the country has come to regard the roll of those who were mown down, as closed. But even now some of the bravest bear the marks of their great sacrifice and, alas, these marks are often deep and threatening. The whole of the medical profession deplore the death of Robert Beveridge Huxtable, which took place on May 10, 1920, the result of an affection acquired in the service of his King and country. An attempt was made to overcome by surgical means the illness on account of which he had been discharged from the Australian Imperial Force in March of this year. He was one of those whom we can ill spare, a man of sterling value, brave to a fault, large of heart, generous and loyal.

He was the youngest of the three doctor sons of Charles Henry Huxtable, of Hobart. He was born in 1867, fifty-three years ago. His schooling was conducted in Hobart at Hutchin's School, where he gained popularity and respect. After leaving school he went to New Zealand and worked for a short time in a bank. He then entered the Otago University and commenced his medical studies. From Otago he went to Edinburgh, where he made a mark for diligent work, exceptional aptitude, keen comradeship and many other enviable qualities. At the age of 24 years he graduated

M.B., M.S.. From Edinburgh he went to London and there used his time to equip himself the better, especially in ophthalmology. In 1892 he returned to Australia and started practice at Thursday Island. A little later he worked at Croydon, in North Queensland.

About 1894 he accepted the position of assistant to Dr. F. E. Hare, the Medical Superintendent of the Charters Towers Hospital. He soon became extremely popular among his patients and the people of Charters Towers were not slow in recognizing that they were entertaining a young man of exceptional ability and of great personal charm. On July 22, 1896, he joined the Army Medical Corps and was attached to the Queensland Garrison Ambulance. About this time Dr. Hare left the Hospital and Huxtable took full charge. He continued to hold this position for fourteen years until 1910, when he gave up his official duties and devoted himself to private practice. In 1904 he was appointed medical officer to the Kennedy Infantry Regiment and in 1910 he sought and obtained a transfer to the purely military service. He was made officer commanding the regiment. For five years he conducted a valuable private practice and gave his patients the best service they could have desired. His innate kindness, his cheerful manner, his sound knowledge of his professional work and his utter unselfishness endeared him to hundreds. His patients and his friends found it difficult to refrain from protesting when he responded to the call of duty at the outbreak of war. In the first place, he was sent to Thursday Island in charge of the troops. On his return he was transferred to the Australian Army Medical Corps and in May, 1915, he was appointed officer in command of the 7th Field Ambulance. This unit proceeded under his charge to Egypt and thence to Gallipoli. His services were of the most distinguished order and he retained the full confidence of all with whom he came in contact. After the evacuation of the peninsula he was sent to France and in November, 1916, he was appointed Assistant Director Medical Services. He had attained the rank of lieutenant-colonel in March, 1909. In June, 1917, he obtained his full colonelcy. In 1917 he was awarded the Distinguished Service Order and the President of the French Republic conferred the *Croix de Guerre* upon him in the same year. His name again appeared in the list of "Birthday Honours" in 1918. He then received the Commandership of the Order of Saint Michael and Saint George. Time and again he was mentioned in the military dispatches for distinguished and gallant service. While on the peninsula he suffered severely in health. His condition was far from satisfactory after he went to France, but, despite physical disabilities, he performed his duties in the most exemplary manner, never complaining and always cheerful. After the armistice he was given the charge of No. 2 Australian General Hospital until the end of 1919. He arrived in Australia on February 21, 1920, and shortly after he was discharged from the Australian Imperial Force on account of ill-health.

Robert Beveridge Huxtable married the daughter of the late Matthew Forrest Shine, of Dungaroon, Ireland. The whole-hearted sympathies of the medical profession are extended to his widow and to his son and daughter. May they find solace in the knowledge that he was so widely respected and admired and so deeply revered.

Colonel Alfred Sutton, C.B., C.M.G., Principal Medical Officer of the First Military District, writes:—

"Robert Beveridge Huxtable is dead and those who knew him best can appreciate most what a loss our profession has sustained. It was my lot to be intimately associated with him in the service for the last twenty years. Never was there a more loyal comrade, nor a more disinterested one. After many years' service in the Army Medical Corps and the Australian Army Medical Corps, he took up in 1910 the command of the Kennedy Infantry Regiment. On the declaration of war he was appointed to the command of Thursday Island. Subsequently he rejoined the Australian Army Medical Corps and in command of the 7th Field Ambulance landed at Gallipoli in 1915. He served until the evacuation, then on the Suez Canal defensive and proceeded to France in 1916. In November, 1916, he was promoted Assistant Director Medical Services of the 1st Australian Division, serving in this capacity until the conclusion of the war.

"Of a quiet, retiring disposition, Huxtable had a most lovable nature and often his face would beam with a smile

as he utter a witticism, little expected from one ordinary so reserved. He was a loyal and helpful comrade and served his country throughout the war with a whole-hearted devotion. On the peninsula and again in France he suffered at times from ill-health and there is no doubt that the privations of Gallipoli hastened his end. Among the thousands of others who served with him, the writer admired and esteemed him.

"Vale! dear friend, ours is the loss."

HENRY WILLIAM BRYANT.

Henry William Bryant, whose death took place at the Anzac Hostel, Brighton, Victoria, on May 6, 1920, was born on February 22, 1860. He was educated at the Melbourne Church of England Grammar School, and began his medical studies at the Melbourne University. He then proceeded to Europe and completed his training in Edinburgh, qualifying in 1885 with the diplomas of the Colleges of Physicians and Surgeons of Edinburgh and of the Faculty of Physicians and Surgeons of Glasgow. He returned to Australia in 1886 and settled in Williamstown, where he was very widely known and esteemed and where he conducted for many years a very large practice. In 1906 he moved to Collins Street, Melbourne, and limited his practice to a large extent to surgery. In 1897 he obtained a commission in the Reserve of Officers on the military medical staff. In the following year he was transferred to the military medical staff of the Australian Army Medical Corps. He obtained his majority in 1909 and was promoted to the rank of Lieutenant-Colonel in 1912. In due course he was awarded the Victorian decoration for long service.

In 1914, although 54 years of age, he volunteered for active service and was appointed the commander of the No. 1 Australian Stationary Hospital. He sailed for Egypt in the Hospital Transport *Kyarra*. Shortly before the landing at Gallipoli his hospital was sent to the Island of Lemnos, where he did splendid work in a spot that was not sufficiently under the official eye to secure for him the recognition of his services. Only those who actually saw the difficulties with which he had to contend and the whole-hearted and self-sacrificing manner in which he overcame them, can understand the tremendous strain to which he was subjected. The only recognition for all this was that he was mentioned in Sir Ian Hamilton's despatches. Completely shattered in health, he returned to Australia at the end of 1915. He endeavoured to recommence his hospital work, only to break down in health again and again. Of him it may be truly said that he gave all for his country.

Harry Bryant had a charming and cheerful personality which endeared him to all who knew him. A keen sportsman, he excelled with the gun and rod and was, perhaps, one of the best known authorities on bird life in Victoria. His death is deplored by a very wide circle of friends and patients, to whom he was a "beloved physician."

Correspondence.

LIGATURE OF THE UTERINE ARTERIES.

Sir: In his very interesting review of the surgery of thirty years ago, Dr. Norman Dunlop appears to raise the question as to who first deliberately tied these vessels in the operation of hysterectomy.

Herman in his text-book on the diseases of women states that it was first done by Stimson in the year 1889. Bland Sutton, however, in a more recent publication holds that the credit must be given to Baer, of Philadelphia, who did the first operation and described the method in 1892. "And this improvement in technique revolutionized the surgical treatment of uterine fibroids." If our own Professor Watson suggested the method prior to the above-mentioned dates, the fact should be more generally recognized and made known.

Excellent guides for the ligature of these vessels are the transverse cervical or cardinal ligaments, upon the anterior face of which the vessels will be found coursing inwards

to the cervix, beneath the anterior layer of the broad ligament, at its lower part.

Yours, etc.,

FRANK A. NYULASY.

Melbourne, May 31, 1920.

[Professor A. Watson in an article published in the *Australasian Medical Gazette*, September, 1899, described an operation of hysterectomy with ligation of the uterine vessels. In the same article he states: "Dr. O'Sullivan practises isolation of the cervix with ligation of the uterine vessels from the vagina." Before closing he refers to the operation as practised by Howard Kelly.—Ed.]

SCARLET FEVER DEVELOPING AFTER TONSILLECTOMY.

Sir: On April 2 I saw two sisters, aged 7 and 9. They were normal in all respects (temperature included), except that each had enlarged tonsils. On April 4 with either I removed the tonsils. On the evening of the 6th the one aged 9 had marked vomiting. On the 7th the entire skin was a scarlet hue. Temperature between 103° and 104°¹ with punctate eruptions in the armpits. The submaxillary glands and the glands of the neck became enlarged. The constitutional disturbances were marked, but not profound. There was a six weeks' illness, with recovery. The skin peeled in a typical manner.

On the 14th the child's mother, who acted as nurse, developed a typical scarlet fever, in which desquamation was the most marked feature. Frequent examination of the urine showed no nephritis in either case.

Yours, etc.,

M. McKENNA.

Brunswick, Victoria, June 9, 1920.

THE MORTALITY OF ENTERIC FEVER.

Sir: In reading Dr. Lawton's interesting paper, I have been struck by his statement that the mortality from enteric fever in Victoria in 1890-1894 was 13% and in 1918 was again 13%. This is the usual mortality under expectant treatment, and it is significant that in Dr. Lawton's brief remarks on treatment he makes no allusion to cold bathing and cold sponging, which are our most valuable aids in preventing mortality.

Göser remarks that the mortality in hospitals varies from 12% to 15% under other plans of treatment, but may be reduced by about one-half by hydrotherapy. Dr. Francis Hare, a very careful and cautious observer, reduced the mortality in the Brisbane Hospital to this extent. His figures are:—

Expectant period (1882-1886): 1,828 cases; mortality, 14.8%.

Bath period (1887-1896): 1,902 cases; mortality, 7.5%.

An analysis of the causes of death greatly increases the strength of his evidence:—

	Expectant Period. % Mortality.	Bath Period. % Mortality.
Exhaustion, etc., from pyrexia	6.83	2.9
Chest complications	2.22	0.51
Cerebral complications	0.68	0.17
Intestinal perforation	2.9	2.9
Intestinal hæmorrhage	1.88	1.2

Broadly speaking, the improved mortality consisted in a reduction of the number of deaths from pyrexia, those from intestinal accidents being unaffected. I must apologize for restating old facts, but in the commendable search for new methods of treatment they are sometimes forgotten.

Yours, etc.,

A. JEFFERIS TURNER.

Brisbane, June 9, 1920.

[Dr. A. J. Turner has obviously neglected to read the summary of the admirable discussion which followed the reading of Dr. F. Blois Lawton's thoughtful address. Had he done so, he would have discovered that no less an authority than Dr. A. V. M. Anderson had arrived at the conclusion that "the bath once so much favoured, was not now so much

used." In the matter of treatment it could not be said that there had been any real advance" (page 538).]

THE PRACTICAL SIGNIFICANCE OF THE WASSERMANN REACTION.

Sir: The various correspondence in your columns regarding the practical significance of the Wassermann reaction and its prognostic value in treatment has obviously interested a wide circle of the medical fraternity. This is deservedly so, as the problems involved are of vital importance.

On the subject matter under discussion the Medical Research Committee have issued three classical reports. After several years of personal experience with one of the methods they recommend (Harrison's technique) I am convinced that their optimism is justified.

Dr. Tidswell is to be congratulated on his concise and clear exposition of the diagnostic value of the reaction in the various stages of the disease.

In subsequent correspondence Dr. Griffiths refers to the well-known fact that the Wassermann reaction is not a true Bordet-Gengou phenomenon and Dr. Watson to the participation of lipotropic substance in the reaction. While it is perfectly true that a variety of lipoids act efficaciously as antigens, it is as yet undetermined whether true syphilitic immune body or lipotropic substance acts as the intermediary link between non-specific antigen and complement, though the work of Noguchi favours the latter conception. Fortunately, however, these enigmatical aspects of the reaction are quite unimportant from the practical viewpoint. Noguchi himself, in comparing the results obtained by "pallidum antigen" and "non-specific Wassermann antigen," epitomizes his position in the following words: "We have in the Wassermann reaction a fair measure of the activity of the infecting agent and now we have in pallida fixation reaction a gauge for the defensive activity of the infected host" (*Journ. Amer. Med. Assoc.*, 1912, LVIII, 1163).

Similarly, the question of pseudo-positive reactions in such protozoal diseases as yaws, relapsing fever and trypanosomiasis has little practical significance in this country. Malaria, fortunately, only yields pseudo-positive reactions in the pyrexial periods and for this reason it can scarcely be regarded as a source of error.

There is no valid reason, therefore, in this country for interpreting a definitely positive Wassermann reaction as meaning anything except syphilis (provided, of course, clerical errors be excluded and the reaction be performed by a capable pathologist using an approved and sensitive method).

Regarding the diagnostic value of the test, the conclusion of the Medical Research Committee (Special Report Series, No. 21) is that: "In the hands of those whose previous records entitle them to be considered as experts, the percentage of positive Wassermann reactions in active syphilis is so high that the test may for all practical purposes be looked upon as specific." They also add that: "Much of the criticism and scepticism has been based on mere statement and a searching inquiry into the literature of the past eight years reveals really very little that can be classed as proved inaccuracy."

In another report (Special Report Series, No. 23) an analysis of the Wassermann reaction in 1,435 cases of syphilis or suspected syphilis is made by Fildes and Parnell. In 620 men with primary syphilis they reported 73% of positive reactions. In acute secondary syphilitics and early tertiary cases up to eighteen months from infection they obtained only three negative reactions out of a total of 471 men examined. In late secondary, tertiary and latent syphilis they state it was very rare to obtain negative results, although they were probably rather commoner. Similar findings were obtained by the late C. F. Sullivan, B.Sc., and the writer. Positive results were obtained in 74.3% of primary syphilitics, in 100% of early secondary syphilitics and in 95% of late secondary and tertiary syphilitics. Only in primary syphilis are Wassermann results really unsatisfactory and fortunately here we can readily diagnose the diseases by demonstrating *Spironema pallidum* by dark ground methods.

Regarding the value of the Wassermann reaction as an index to treatment, it is important to realize that the opinion held by Dr. Watson and certain American physicians of the Massachusetts General Hospital is not in agreement with

¹ i.e., 39.4° and 40° C.

that of the majority of leading British and American serologists.

While I agree with Dr. Watson that "a positive reaction does not necessarily mean that the lesion in question is syphilitic" I do not agree when he adds "nor does he require treatment." Whatever the nature of the lesion under investigation may be, if a patient is found to have a positive Wassermann, it means that he has active syphilis and, if he has active syphilis, then he needs treatment for his syphilis, even though the lesion in question may be non-syphilitic.

Clinical observation and experience are certainly important guides in deciding whether the patient has external evidence of syphilis. Too often, however, it fails to reveal those insidious chronic inflammatory changes involving vessels and viscera which are recognized only at autopsy, unless the clinician avails himself of the serological data obtained by the Wassermann reaction.

Indeed, all available evidence goes to prove that the reaction is an indication of the pathological activity of spirochetes and the conversion of a positive into a negative reaction during treatment indicates either their death or their conversion into a latent state.

If the clinician decides to discard the Wassermann reaction as an index to treatment, his only safe policy, in the present state of our knowledge, is to treat every patient for life. There seems, however, a more satisfactory method in vogue than this, especially for primary and early secondary syphilis, namely, to treat the patient intensively with salvarsan or its allies and intramuscular injections of mercury, until the Wassermann reaction becomes negative and thereafter to prescribe mercury *per os* up to a period of two years. If after the cessation of this treatment, the reaction remains negative for six months, then the patient can be informed that he is non-infective and probably cured, but that it is most advisable for him to have his blood retested at six monthly intervals during the next few years. When such a case is going to relapse, the Wassermann reaction will become positive several months before clinical evidence of syphilis develops and suitable treatment will forestall this. If the case is not treated until the late secondary or tertiary stage is established, the outlook is less promising, owing to the inaccessible location of spirochetes in perivascular fibrous tissue and elsewhere. A definite proportion of these cases are "Wassermann fast" and it is extremely difficult to convert the reaction to negative and to keep it there. Such a finding, however, is no reason why, as Dr. Watson suggests, we should tell our patient that the reaction is useless as a guide to treatment and so send him away into a fool's paradise. Indeed, the very reverse is the case. We should tell him, as cheerfully as we can, that, owing to the late stage at which his disease came under notice, his only safe policy is to take mercury for the rest of his life. This, at least, should render him non-infective and limit the pathological activity of the spirochetes.

The present-day opinion of the majority of observers is that, from the practical and diagnostic viewpoints, the Wassermann reaction (correctly performed) is a specific test for syphilis and from the therapeutic aspect that it affords an accurate index both to the pathological activity of spirochetes and to the relative merits of the various parasitocidal drugs introduced in the treatment of syphilis.

Yours, etc.,

N. HAMILTON FAIRLEY, M.D., M.R.C.P., D.T.M. & H.
The Walter and Eliza Hall Institute of Research in Pathology and Medicine, Melbourne, Hospital,
June 10, 1920

ETHYL CHLORIDE AS AN ANÆSTHETIC.

Sir: In the daily papers of 9th inst. I notice a report of a demonstration of the administration of ethyl chloride by Dr. G. E. Payne Philpotts at the Congress of the Dental Association of New South Wales, the paragraph concluding with an assurance that the anæsthetic was both safe and rapid. I grant its rapidity, but am very doubtful of its safety in unskilled and unqualified hands.

This raises in my mind a question as to the advisability of the administration of anæsthetics by members of the dental profession; and to me it appears that our friends, the dentists, are taking upon themselves very grave re-

sponsibilities, so grave that a dentist would be in an indefensible position if he should have to face the coronor as the result of a fatality.

Personally, I have had a long experience of ethyl chloride as a short anæsthetic and in dental cases always treat it with the greatest respect, as I consider it more dangerous in such cases, from the possibility of obstruction to respiration. I have seen cases of ethyl chloride anæsthesia which were on the verge of proving fatal, but for the presence of a skilled anæsthetist who knew what to do in an emergency.

Are the dentists prepared to take the risks involved? Are we, as a profession, prepared to recognize them as equals in the field of general anæsthesia? If so, what is the use of our special training, which they do not receive?

Yours, etc.,

"STERTOR."

June 10, 1920.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

The undermentioned have been registered, under the provisions of the *Medical Act, 1912 and 1915*, as duly registered practitioners:—

Armstrong, Hugh Maxwell, M.B., 1920, Univ. Sydney.
Bodycomb, David Henry, M.B., Bac. Surg., 1917, Univ. Melbourne (Armadale, Vic.).

Bogle, James, M.B., 1920, Univ. Sydney.

Jolley, Alan Frankland, M.B., Bac. Surg., 1914, Univ. Melbourne (Melbourne).

Prentice, David Shields, M.B., Bac. Surg., 1918, Univ. Dublin (H.M.A.S. *Tingra*).

Ross, John Charles, M.B., Bac. Surg., 1917, Univ. Melbourne (Ganmain, N.S.W.).

Woodhill, Victor Richmond, M.B., Ch.M., 1920, Univ. Sydney (Royal Prince Alfred Hospital).

Williams, Reginald, L.R.C.P., Edin., 1893; L.R.C.S., Edin., 1893.

The following additional registrations have been made:—

Thomas William Freeman, Mast. Surg., 1920, Univ. Sydney.

John Frederick Britton Langdon, Mast. Surg., 1920, Univ. Sydney.

VICTORIA.

The undermentioned have been registered, under the provisions of Part I. of the *Medical Act, 1915*, as duly qualified medical practitioners:—

Allen, Ralph Edward, M.B., B.S., Melb., 1920 (8 Pine Avenue, Elwood).

Chenoweth, Ernest Wesley, M.B., B.S., Melb., 1920 (2 Belmont Avenue, Kew).

Frost, Alfred James, M.B., B.S., B.A.O., R.U., Irel., 1900 (Dandenong).

Glissan, Francis Reginald d'Alton, M.B., B.S., Birmingham, 1905 (Bank of New South Wales, Collins Street, Melbourne).

Hattam, Bickford Jenkin, L.R.C.P. et S., Edin., L.R.F.P.S., Glas., 1913 (Bowden Street, Preston).

Leonard, Harry Ronald, L.R.C.P. et S., Edin., L.F.P.S., Glas., 1904 (c/o W. Ramsay, 80 Swanston Street, Melbourne).

May, William John, L.M., S.S.A., Lond., 1916 (66 Arthur Street, Fairfield).

McSweeney, Daniel Christopher, M.B., B.S., Melb., 1920 (St. Vincent's Hospital, Melbourne).

Shaw, Hugh Kirkland, M.B. et Ch.B., Edin., 1914 (Bank of New South Wales, Collins Street, Melbourne).

Steven, Arthur Raphael, M.B. et Ch.B., Glas., 1916 (16 Lindsay Avenue, St. Kilda).

Symonds, Hyman, M.B., Sydney, 1916 (30 Rathmines Street, Fairfield Park).

The following additional diplomas have been registered:—

F. D. H. B. Lawton, M.R.C.P., Lond., 1919.

T. G. S. Leary, F.R.C.P., Edin., 1916.

The name of the late Dr. Henry William Bryant has been removed from the Register.

The attention of members of the British Medical Association is directed to an advertisement appearing in another portion of this issue, inviting applications for the position of honorary aural surgeon to the Victorian Eye and Ear Hospital.

Books Received.

- HANDBOOK OF DISEASES OF THE RECTUM**, by Louis J. Hirschman, M.D., F.A.C.S.; Third Edition, revised and rewritten; 1920. St. Louis: C. V. Mosby Company. Melbourne: Stirling & Company. Royal 8vo., pp. 378, with 223 illustrations and four coloured plates. Price, 27s. 6d.
- SEX ATTRACTION: A Lecture** given at the Michigan State Normal School, July, 1919, by Victor C. Vaughan, M.D., LL.D.; 1920. St. Louis: C. V. Mosby Company. Melbourne: Stirling & Company. Pocket size, pp. 44. Price, 3s.
- PERSONAL BEAUTY AND RACIAL BETTERMENT**, by Knight Dunlap; 1920. St. Louis: C. V. Mosby Company. Melbourne: Stirling & Company; Crown 8vo., pp. 95. Price, 6s.
- ARTERIOSCLEROSIS AND HYPERTENSION**, with Chapters on Blood Pressure, by Louis M. Warfield, A.B., M.D., F.A.C.P.; Third Edition; 1920. St. Louis: C. V. Mosby Company. Melbourne: Stirling & Company. Demy 8vo., pp. 265, illustrated by 60 figures. Price, 22s. 6d.
- THE NOSE, PARANASAL SINUSES, NASOLACRIMAL PASSAGEWAYS AND OLFACTORY ORGAN IN MAN: A GENETIC, DEVELOPMENTAL AND ANATOMICO-PHYSIOLOGICAL CONSIDERATION**, by J. Parsons Schaeffer, A.M., M.D., Ph.D.; 1920. Philadelphia: P. Blakiston's Son & Company. Demy 8vo., pp. 370, with 204 illustrations, of which 18 are printed in colour. Price, \$10.00 net.

Medical Appointments.

The appointment of Dr. W. H. F. F. Godwin (B.M.A.) as Quarantine Officer at Derby and of Dr. A. E. Stenning at Onslow, Western Australia, is announced in the *Commonwealth Gazette*.

The appointment as Public Vaccinators of Dr. James Bell at Toora, of Dr. A. J. Bothamley (B.M.A.) at Jamieson, of Dr. C. E. Jelbart (B.M.A.) at Kyabram and of Dr. F. F. McMahon at Lilydale, Victoria, is announced in the *Victoria Government Gazette*.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xxvii.

Victorian Eye and Ear Hospital: Honorary Aural Surgeon.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges (other than the Grand United Order of Oddfellows and the Melbourne Tramways Mutual Benefit Society), Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital. Stannary Hills Hospital.

Branch.	APPOINTMENTS.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

- June 22.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
- June 24.—S. Aust. Branch, B.M.A.
- June 24.—Q. Branch, B.M.A., Council.
- June 25.—N.S.W. Branch, B.M.A.
- June 30.—Vic. Branch, B.M.A.
- July 2.—Q. Branch, B.M.A.
- July 6.—N.S.W. Branch, B.M.A., Council (Quarterly).
- July 7.—Vic. Branch, B.M.A.
- July 8.—Q. Branch, B.M.A., Council.
- July 9.—N.S.W. Branch, Clinical.
- July 13.—N.S.W. Branch, B.M.A., Ethics Committee.
- July 13.—W. Aust. Branch, B.M.A.
- July 15.—Vic. Branch, B.M.A., Council.
- July 16.—Eastern Suburbs Med. Assoc. (N.S.W.).
- July 17.—Northern Suburbs Med. Assoc. (N.S.W.).
- July 20.—N.S.W. Branch, B.M.A., Executive and Finance Committee.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney. (Telephone: City 2645.)

We are seeking copies of our issues of February 14 and 28, 1920. There has been an unusual demand on our stock, which is now depleted. Members who do not keep *The Medical Journal of Australia* for binding, are requested to send us their copies, on receipt of which the usual payment of the face value will be made.